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PSYCHOLOGY FOR NORMAL SCHOOLS.

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WHILE it seems that in our own country the normal school must continue for some time yet to provide opportunities for general education and culture, still it properly belongs to the class of professional or special schools, as does the school of medicine, of law, of civil engineering, or of any of the arts and professions; and its particular province must be to lead its students to become acquainted with all that body of information, both as to theory and art, that is directly related to the work of instruction so far as this is undertaken in the public schools. Since instruction is the process of consciously stimulating and developing aright the mind and character of pupils, it follows that the one who proposes to teach must know what agencies are best adapted to accomplish this aim, and how they may be used to the greatest advantage at every step in the pupil's education. This implies that the teacher must comprehend: (1) The psychology of the learning mind,—how it learns, whether the learning of special subject-matter confers general or only special power, whether the activities of the mind may be reduced to one fundamental principle, or whether each faculty, so-called, has laws and methods peculiar to itself, and so on; (2) she must understand the office of school government and discipline and of intellectual training in the development of emotional and volitional characteristics and tendencies;—that is, the formation of character; (3) if she would deal most effectively with each

individual under her charge she must understand the limiting and determining influences of heredity and environment, and of physical types and conditions upon the mind and character of school-children; and (4) at the completion of her study of psychology she should be able to discover with some skill and accuracy the intellectual, emotional and volitional factors that have made her pupils what they are, and that determine their present capacities and disposition; and she should know how to deal with each factor if she would develop or change the personality as she finds it.

In the opinion of the writer this indicates the aim and character of psychological study in the normal school. The statement made recently by one of the most distinguished psychologists of this country that tact, interest and sympathy are of greater worth to the teacher than all the psychological laboratories in the country may be literally true in its reference to laboratory psychology, but it does not seem to be quite so applicable to psychological study of all kinds. It must indeed be true that interest and sympathy are primary requisites for successful teaching; but native tact may be made much more keen and efficient by special study of the nature and problems of teaching. In so far as undisciplined tact gives perfect insight into the nature of the child-mind — the method of its development, and the manner of adapting material of instruction to it — psychological study would seem to be unnecessary; but these conditions do not exist in the case of most teachers. The old maxim that teachers are born not made seems not to be wholly true; and believing this, the modern educational world has provided elaborate means for the making of teachers, or at least for improving upon what nature has done for them. Perhaps one may teach those things which he has been taught without ever thinking of their effect upon the intellect and character of pupils, or of their peculiar value in certain cases and lack of it in others; — one may perhaps teach in this way and do much good, but his power must be vastly increased if he be able to tell from his understanding of the nature of the mind the effect upon pupils of different kinds of stimuli in the form of material of instruction. There are probably kinds of psychological study that are of little direct value to the teacher; but the psychology of the learning mind cannot fail to give her clearer and deeper insight, and hence greater skill in dealing with the problems of the school-room.

In a paper of this length it is impossible to indicate with sufficient detail and clearness the scope of psychology for normal schools, so only the barest outline will be attempted. To begin with, the conditions which exist in most schools will not admit of a comprehensive study of formal or pure psychology. There are not many normal schools in which the study of this subject, apart from its applications in general and special methods, which will not be regarded here, can be pursued for longer than one year of fifty minutes each day; and in many cases not more than one-half of this time can be given, especially in the elementary courses in which the great majority of students are to be found. It is imperative, then, that the scope of psychological study should be limited to the psychology of school education, other phases being touched upon only in so far as is necessary to give the teacher an appreciation of the influences that are always at work outside of the school-room in determining the personality of her pupils. It should be said here that there is no intention to disparage the culture and disciplinary value, and perhaps in a general way the practical value of the study of pure psychology; but the problem is simply to determine what is best for the prospective teacher under the limiting conditions that are necessarily imposed upon her. Students in the Normal schools have not that breadth of philosophical training and culture that will make them intelligent and ready in the application of the general principles of pure psychology to concrete instances of class-room instruction; and there has no doubt been much study of psychology in the immediate as well as the more remote past, that was so far away from the problems and conditions of the school-room that the work of instruction was not affected materially one way or the other thereby. Psychology is such a comparatively new science, however, although a very old subject, that it is a matter of no great surprise that it has not yet become very extensively applied as a science to the determination of the nature and method of teaching.

At the risk of seeming dogmatic the following brief outline of topics is suggested as adapted to the capacities, needs and conditions of Normal school students:

1. The relation of mind and body, to the extent that the teacher may comprehend how physical types and conditions limit and determine the capacity of the individual for intellectual,

emotional and volitional activity and development. No one can deal wisely with pupils who cannot discern in particular instances the influence of the physical over the spiritual, yet this subject seems not to receive in many schools the attention which it manifestly deserves. The reason is, no doubt, that it has been generally believed that mental conditions and activities, so far as these are of concern to the teacher, are independent of any determining influences from physical causes; and even now the majority of teachers, perhaps, never attribute any intellectual and emotional phenomena, whether these be favorable or otherwise to physical causes, which, were they keener observers, they might easily eliminate. It should be said in this connection, that the dependency of intellectual, and hence, in some degree, emotional and volitional activity, upon the keenness and accuracy of the senses in responding to all stimuli in the class-room and environment should be thoroughly understood, and the teacher should be able to ascertain whether keenness and accuracy are possible in particular cases. She should understand the relations of mind and body, again, from the standpoint of the connection of physical expression with corresponding mental phenomena. It seems that the study of physical expression as a reliable index to the activities of the mind has been neglected in the normal school to the great disadvantage of apprentice teachers. The training and discipline of the class-room can never be of greatest worth until the teacher is keen in noting constantly the effect these have upon the intellect, emotions and will as portrayed through the various avenues of expression.

2. The normal school should lead its students to appreciate the influence of race, heredity and environment upon intellectual and emotional personality in the class-room. There may not be a large amount of established knowledge upon this subject in such form that the pupil-teacher can be made familiar with it, but this is probably because there has not been a great amount of attention given to the subject by teachers. However, we are not entirely destitute of information along this line, and if the prospective teacher can become familiar with this, and can be led to observe the influence of these factors in concrete cases during her psychological study, she will be able, at least in a general way, to estimate their influence in her own school-room.

3. Students should study in detail the nature of intellectual

activity and the method of its stimulation by the work of the school-room. The factors of perception and apperception, memory, reasoning and imagination should be understood in detail as to the nature of each, its importance in determining intellectual personality, its office in the various kinds of work in the class-room, when it is capable of working at its best, what conditions will interfere with its proper activity, and so on.

In speaking of the factors of perception, apperception, memory, etc., it should not be understood that these are entirely different processes bearing no relation to each other; but rather they should be regarded as phases of one fundamental process of the learning mind. The writer believes that great care should be taken to preserve the essential unity of all intellectual activity and the dependency of faculties, as perception and reasoning, upon one comprehensive principle. The history of psychological teaching shows that at first the mind was regarded as a composite of faculties of the nature of compartments, each more or less independent of the other in character and activity. This view has given place to the one now prevalent that faculties are but ways in which the mind manifests itself, yet they are radically different from each other. Both of these views are apt to lead to confusion in the mind of the young teacher, and there is a failure to appreciate the close relation between all the activities of the learning mind. This is not the place for an exposition of a psychological system; but it may be allowable to say that for the purposes of the teacher the various faculties, perception, apperception, memory, imagination, conception, judgment and reasoning, may be regarded as phases of the one process of apperception, to supply the conditions for which along various lines is the whole business of instruction. At all events, it is but just to add that the analytic study of mental phenomena is incomplete without the final act of synthesis; and it is believed that in this synthesis there may be found unity in the midst of apparent diversity.

4. The emotions and will should be studied in the same manner as the intellect, especial regard being paid to the influence of intellectual training and of school discipline upon emotional and volitional tendencies. The influence of experience in and out of the school-room, and of the "circle of thought" in creating and determining the pupil's interest should be carefully con-

sidered. The teacher should be made to realize that the material of instruction has emotional and volitional as well as mere intellectual value,— that ideas have a shaping influence upon character. Unity should be seen in emotional and volitional as well as in intellectual life; and it should be made emphatic that instruction of whatever kind affects not simply one faculty, but the whole child,— intellect, emotions and will.

5. And finally, the teacher ought to comprehend in a general way the psychology of individual and social life as it exists in the world about herself and her pupils. The public school must prepare the pupil for the conditions he will meet when he leaves the school-room, and for this reason teachers should be students of the life around them, and should apply their psychology to the interpretation of social phenomena.

As to method of presentation it seems that a great deal of psychological teaching in the normal school does not illustrate the principle that beginnings in every science should proceed upon concrete experiences, and that generalizations should be derived from the examination of particular examples. In the formal study of psychology, which is still followed in many places, the mind is regarded as an inert object composed of parts or faculties, each more or less independent of the others, and which may be described in some such manner as can the parts of a plant or of any organic body. Such study must be based almost wholly upon text-books, and students gain from it what may be called a logical knowledge of the mind, somewhat as in the study of text-book chemistry a logical knowledge of the composition of substances and the deportment of elements under various conditions may be gained. In either case, since the study has been divorced from concrete examples, the knowledge acquired is of very little practical value, because its connection with common affairs has never been traced by the student. Many teachers can remember how little of every-day value they gained from the study of pure or formal psychology, because this was not illuminated and explained by reference to things that came within their experience. It is only after long and careful training that one is able to apply the theories of formal psychology to the manifestations of mental phenomena occurring in the school-room every moment; and in most cases there is an appeal almost wholly to the verbal memory, without understanding of what is being memorized, because the general-

izations are far above, and for the young student, entirely divorced from the particular instances by which they are made intelligible. It seems strange that in the study of educational psychology, the specific purpose of which is to relate and describe the movements of the learning mind, the very fundamental principles which it declares should be observed in all instances are violated in its own case.

The study of this subject, then, should begin with analysis of the learner's experience. Every individual who is ready for the study of psychology has the whole science, so far as it is related to education, within his own experience; and it is the duty of the instructor to guide him in the observation and study of that experience so as to discover the common truths and laws to be found in it. It is as pertinent in matters of the mind as in other things, that we do not observe essential characteristics until we have been led to by one who knows what they are, and who by wise questioning has directed our minds to intelligently examine what has always been within our environment, but which has not really become a part of our experience. Most normal school students have at first little apperceptive knowledge that will enable them to observe and study spiritual phenomena; and it is really the business of the teacher to create this body of information, so that when his students undertake the work of teachers they will have some basal knowledge for the observation and interpretation of mental phenomena occurring in their school-rooms. Now, this aim can never be accomplished by the study of principles of psychology without first, or at least finally, studying concretely instances from which these principles may be derived. These instances may be found, (1) in the pupil's own life. (2) They may be observed in the lives of those with whom the student associates. (3) They may be gained from the observation of pupils in the process of responding to the stimuli of the class-room. (4) They may be studied in history and literature of every form and description. (5) Lastly, they may be gained from text-books in which concrete examples of the various kinds of mental phenomena are given. The most important of all these ways are, in the opinion of the writer, the analysis of personal experience; the observation and study of pupils in performing the regular work of the school-room; and the investigation of types and conditions of life in the environment of the

student. The wise instructor may guide any teacher to a complete and comprehensive study of educational psychology through these means, for surely the material is unlimited in abundance and always at hand. In such study the pupil is made eye-ear-and-thought-minded to manifestations of mental phenomena, and by the aid of the instructor is enabled to interpret correctly what he has observed; and this is the *summum bonum* in the teacher's study of psychology.

It may seem desirable in most schools that students should use a text as a guide, this to be constantly illustrated and amplified by the concrete study of the subject. When such a text is used, it is certainly important that its subject-matter be of the nature of educational rather than of general or pure psychology; and its method of treating the subject should be such as will stimulate the pupil to investigate for himself, rather than to give him examples and principles to learn, even though these are directly connected with educational work.

Finally, the ability to observe and interpret correctly mental phenomena in the school-room can be most serviceably acquired by the study of children while under the influence of school-training. It is perhaps true that study of this character cannot be intelligently and profitably undertaken until the student-teacher has, under the guidance of the instructor, acquired some skill and readiness in observing and interpreting mental and emotional phenomena from analysis of her own experience; so that child-study (or, perhaps, objective study) may not be most profitably begun until the teacher has acquired some body of apperceptive knowledge of psychological phenomena. In the analysis of her own mental life the teacher should be led especially to review the experiences of her childhood so as to discover intellectual, emotional and volitional characteristics of that period which she may now have outgrown, but which are common to all children, and upon which the matter and method of her teaching must depend. In the study of children in the normal school it should not be the purpose to establish new facts concerning child-nature so much as to lead prospective teachers to see in all childhood illustrations of principles already well known, and to be able to always observe these in their teaching, as well as to deal wisely with those who may diverge in any way from the normal type. This does not imply, however, that the normal school

should not add to the body of information already established about childhood; indeed, the contrary is more true, for the sympathetic study of children by any one who is constantly in contact with them must at least tend to illuminate and verify what is now but imperfectly understood.

In summary, then, it may be said: (1) That the aim of psychology in the normal school should be to lead students to become acquainted with the nature and laws of the learning mind, and of the effect of various kinds of material of instruction and discipline in the school-room, and of influences in the environment upon the intellectual, emotional and volitional nature of children. (2) The scope of the work should include a study of all those conditions that will enable the teacher to use the material of instruction, and to organize her government and discipline in the class-room to the best advantage in training the intellect and developing moral character. To accomplish this there should be careful study of the following principal subjects: The influence of physical types and conditions upon intellect, emotions and will; the relation between mental conditions and activities and their physical expression; the determining influence of heredity and environment upon child-nature in all its aspects; the nature of, and connection between perception, apperception, memory, reasoning and imagination, and the desirability of regarding all these as phases of the one general process of apperception; the influence of interest upon intellectual activity, and the tendency of experience to create and determine interest; the nature and kinds of emotions and will, and the connection between intellectual training and emotional and volitional activity; the relation between the circle of thought and character; finally, the psychology of individual and social life in the environment of teacher and pupils. (3) The method of study should be concrete, — in the analysis of experience, in the observation and study of individuals in the student's environment, and of pupils while engaged in the regular work of the schoolroom. A text may be used as a guide, and to aid in stating principles that have first been observed concretely, or that may be illuminated and verified by reference to facts that can be observed. Lastly, there should be much definite, practical work in the study of children, so that the teacher may better understand child-nature, and may be able to determine the capacities of each pupil for the work of the class-room.

THE NEED OF A DISTINCTIVE AMERICAN EDUCATION.

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THE United States requires beyond other countries a distinctive education adapted to its peculiar political and social individuality. This it has never had. Our common school system while not originated by New England was also not an invention of Old England. As far back as we can trace the Aryan stock we find provision for the education of the young. Sir Henry Main speaks of the primitive custom of holding all children as pupils until twenty years of age. This was a social custom antedating statutes and laws of all sorts. Our fathers inherited this instinct for popular education. The Colonists took the common school much as they found it; a secular institution with a religious infusion. On the other hand they accepted the college as an institution for the education of a learned class. The common school was a creature or function of the state; but collegiate education was the property of the church. It must be kept in mind that the church and the state are collateral branches of the primitive family. As such each has its separate functions and its specific duties. To which public education should be assigned is a question to be considered. Certainly no unified system can exist which consists of schools one half of the state and one half of the church.

But this was what the United States at its foundation inherited. The two classes of schools were not stages of a single progress in study, but were wholly individual and dissevered. W. T. Harris, in an able address, some years ago pointed out the serious nature of this incoherence. It has been the work of the famous Committee of Ten to endeavor to bring the two systems into a unity. But if this can be accomplished, there still remains the fact that in almost all the older states the higher institutions of learning are unfederated. While largely secularized, but in very different degrees, they remain as fragments of great institutions, scattered about the states without correlation. A distinctive American education must be one not only completely

secularized and unified, but one adjusted to the character of a federal republic. All the state systems having become coherent and unified, should be finally federated at Washington. Education that is not collateral with political life, and is not as far reaching as our social organism, utterly fails to do what education is supposed to be adequate to accomplish. In other words we desire to educate not only individuals but the state. Colleges should therefore not only grow out of common schools but grow into state universities; and then into a supreme university of the United States. The system of American education should thus be fitted to American conditions, and to all of America. It should be adjusted to whatever is novel in our social and political structure; and should control its development.

The object of such a system of education is unique, national and strictly American. It is not simply to spread intelligence and to create a learned class, but to make of the whole people citizens, enlightened for their specific duties as a self-governing body. The subject matter under investigation it is self-evident must be of a sort to accomplish the purpose in hand. Every school, from the outset, should be eminently inspired with the patriotic spirit. Whatever is done by us as a people should be prepared for in our schools. Our higher schools should create political and social atmosphere — not specifically religious; while our universities, located at our state capitals, if an integral part of the scheme, and duly developed into the dignity of real universities, must so far affect legislation that it shall be the result of progressive investigation.

(1). In the effort to establish an American system, the first problem that must be met is this, having discarded religious control and theological influence, are we compelled for the first time in history to foster the growth of a purely intellectual culture? Or must we content ourselves with that amount of moral culture — not a small amount indeed — that comes from discipline, order, obedience and investigation of truths? No adequate reply has yet come to this question. Volume after volume has appeared making tentative efforts to demonstrate that ethics can be taught apart from religion; but such books as Spencer's Data of Ethics, Seelye's Duty, and Gilman's Conduct as a Fine Art, have found no place in our school curricula. It remains however true that no other safeguard against political and social dishonor has been

devised as a substitute for education. Any education that concerns itself with the intellectual powers alone increases the ability for rascality. That all civilization everywhere is now suffering from a demoralized education does not make it any more endurable that our much wider citizenship should be left to rest on mere knowledge. Between the medieval plan of teaching religious obligation and the modern method of teaching facts only, unapplied to life, our republic has little choice. In the former case we develop bigots; in the latter rogues. I am unwilling to rest this matter as anything less than vital. The church undertook to solve the problem with the Bible. If we go on to secularize the school system, we are bound to furnish a substitute for religious authority in character-building and in self-government. Much can be gained from the increased ratio of scientific studies. When our youth face the fact in biology that they are the supreme result of nature's work, "God effort," for millions of years, they can not help the growing consciousness that no one owns himself — that he is rather a trustee in charge of all that evolution has achieved since life began. Sciences prepare for three things, (1) for a self-valued life, a life where every leaf, insect or sand grain is a library, (2) for successful business pursuits, (3) but still more, for high moral relations to nature, including self and mankind. It is impossible however to concede that the only possible school culture in morals is of a general character, or of a secondary and indirect sort. The church may justly claim that our public school system so far fails of its prime purpose. In morals as in any other science the work of the school is only half done when the facts are imparted. Applied morals like applied botany or applied mathematics is pre-eminently the object of education. To create character is the object never to be lost sight of.

(2). American education should be distinctive also in this, that it teaches the art which we summarize as civics. Washington, at the founding of the nation, insisted that there must be measures taken at once to educate our youth in "the science of government." Jefferson gave his most earnest endeavors to establish a system that should "form the statesmen, legislators, and judges, on whom public prosperity and individual happiness are so much to depend; that should expound the laws which regulate the intercourse of nations, as well as those formed muni-

cipally for our own government; that should create a sound spirit of legislation — harmonize and promote the interests of agriculture, manufactures and commerce, and by well informed views of political economy, give free scope to public industry." He did not expect all this of the common schools; but he insisted that the education laid in these lower schools must be carried on in colleges and state universities. He defined among the objects of primary education, beside the power to improve himself and transact business, the power to "understand his duties to his neighbors and country, and to discharge with competence the functions confided to him by either;" while higher schools should go forward to "expound the principles and structure of government." Unhappily no branch of education has remained so conspicuously absent from the common school curriculum, and in general from those of colleges as civics. Our chief education in the art of government has come from our political campaigns. Noisy and excitable, yet these have been invaluable for their tutelage in practical questions of citizenship. Notoriously being appeals to ignorance, they do nevertheless compel a vast amount of useful discussion. The result however has been, as a rule, to create negative rather than positive views. The popular opinion expressed at the polls is rarely more than anti to whatever scheme or policy of government may be on trial. With a complicated system of government, in which any citizen may be called to serve officially, we give no training to secure adequate knowledge of obligations. Our leaders are too often blind leaders of the blind. No election passes in which the voter is not called upon to exercise the highest judgment, and to distinguish with a keen sense of honor; yet we leave our voter untrained to any fealty higher than partisanship. The high questions of civic duty and citizen rights are hardly discussed even in our universities — and there such discussion is liable to bring the investigator to trial for educational heresy. Every citizen should be an educated politician; not educated in caucuses or in saloons, but in our common schools. Nor does it seem possible ever to overcome fraud, bribery and mean partisanship until the young voter goes to the polls for the first time with a bias of honor and a well-educated will to help the truth to triumph. Professor Bryce has done Americans good service in calling attention to this radical defect in our education. Our schools do not come up to

their obligations in preparing youth for the responsibilities of citizenship, where citizenship is coequal with government.

(3). American education should be peculiarly historic in spirit. We are the creatures of history. Our constitution and our institutions, both on the side of the church and of the state, are historic evolutions. This evolution reaches back by cause and consequence to link all human life together from the primitive family to the most recent civilization. To comprehend history is important in all lands, but to be acquainted with the past is pre-eminently important in a land of democracy. Our statesmen for lack of historic information walk in circles; and undertake old failures and falsehood over and over again. In finance they gain no advantage from the fact that their problems were solved long before them. The people, without history, swing back and forth politically like a huge pendulum. Anarchy has always the best of the argument when it recounts our existing evils; but law and order have the argument without question when we perceive the evils that were conquered, and the difficulties that hemmed in the way of our predecessors in government. Within the past year one of the most popular authors in the United States has proposed the abolition of the senate; while a second has urged the abolition of the supreme court. We are liable at any moment to lose the form and spirit of federalism; for while our people comprehend that ours is a popular government, they do not comprehend that it is a federated government of absolutely independent commonwealths; and that our sole stability is not in democracy but in federalism. This grandest political conception came in a line of historic evolution. It will be impossible for our nation to lead on the world without it comprehends this central truth of its political life. Federalism is in fact only another word for fraternalism. It initiates internationalism. Nothing but ignorance can hinder the broader federalism that shall not only include all English-speaking races, but all civilizations of all races. History not only gives us knowledge of the past but enlightens the future. Jefferson said in his sketch of the school system which he hoped should prevail, "History by apprising children of the past will enable them to judge of the future: it will avail them of the experience of other times and other nations." He insisted that in our common schools education should be "chiefly historical." So much

weight did this pre-eminent statesman place on the right knowledge of the past. Garfield believed that a lack of knowledge of history was largely accountable for our civil war. He said, "After this bloody feud I urge that it should be made an indispensable condition of graduation in every American college that the student must understand the history of this continent since its discovery by Europeans; the origin and history of the United States; its constitution of government; the struggles through which it has passed, and the rights and duties of citizens."

(4). When we turn to our economic conditions, we find that undeniably our only hope for betterment is also in education. Fichte urged on the Prussians this great fact, when the people was plunged in the depths of despair after the Napoleonic wars; "I hope," he said, "to persuade you that the salvation of Prussia is in a better system of education." The result was that, through enlightened methods of agriculture and commercial exchange, Prussia soon became the foremost nation of Europe; and the greater Germany became possible. Our political life involves economic conditions. We settle our finances, our commerce, our relations of capital and labor largely at the polls. Without training in economic laws, our citizens are unable to do anything but veer about, and ballot according to vague sentiment. Our tariff question incontrovertibly involves the prosperity not only of our people but the prosperity of the world; yet the popular vote has constantly moved in great tides from protection to free trade and back again. We have no settled national policy on this question after one hundred years of discussion; nor are we really on the road to popular conviction based on knowledge. Our politics turn and will turn on shallow judgment so long as our school system ignores the need of direct investigation into such questions as finance and the laws of production and traffic. Over and over again our agriculture heaps its granaries, without a market, until the wealth of the world feeds the fires of starving farmers, or is sold for less than cost of production. Waste characterizes our people in every direction. A recent agricultural writer says, "Careful investigation shows that from first to last one half our whole American fruit crop is a waste; partly from ignorance in culture and in fighting insects; but more from bad training as to handling, storing and marketing. The loss by waste on fodder, including corn stalks and grasses, would feed one half as

many more cattle and horses as are possessed in all the states." We lack that sort of education which characterizes the training of some other races. Ten Chinamen live well where one American will go hungry, and degenerate.

(5). It seems to me still more vitally evil that our whole system of education has been from the first essentially that of merchants and mechanics, and not that of land-tillers. The American school curriculum contains little that specifically fits our children for agricultural success. Starting with ninety-six per cent of farmers in 1790, we have now but little over sixty per cent. The immense progress in general education has been wholly on lines that turn young people away from rural into urban life. Steam power has helped the herding tendency by concentering industries in huge factories. But this alone could not account for the drift away from the land and the country. It is mostly to be explained by the fact that our young people are better qualified, by education, for any other work than intelligent tillage of the earth. The boy goes to the city in search of better opportunities, and to see the world. This is practically correct as things are. But if he were, by his school life, made well acquainted with the things under his feet, and all about him, he would find the end of life anywhere but in the city. We send our farm boys to school, and they come back with no knowledge of plants, or animals, or insects; no acquaintance with soils, minerals, water courses; and farm life, which should be based on such knowledge, is stupid and monotonous. Agriculture has to do, if rightly conducted, with a wide range of studies; is closer related to more arts and sciences than any other employment. These include not only drawing and handcraft in general, but geology, chemistry, physics, and biology in most of its branches. The United States is essentially, and must remain for its best prosperity, an agricultural nation; and should therefore infuse education with those elements that make agriculture a highly intellectual pursuit. Dominated by the idea that our schools from universities down shall point toward literary rather than practical affairs, I can see with what amazement our school authorities must look on a programme that teaches the relations of insects to fruit, and the best methods of destroying the injurious. The government pays annually millions of dollars to find out the facts; but the farmer must find out the results of such investigations as best he can.

"Surely," says Professor Teegan, "The teaching of practical school gardening would be as valuable as setting the pupils to memorize the height of the principal peaks of the Rocky Mountains." Our common schools should be supplied with teachers qualified to instruct in elementary knowledge of soils, and both animal and vegetable life: and our normal schools should furnish such teachers. "But are not these abstruse sciences quite out of the reach of any but advanced scholars?" What is geology but the knowledge of the rocks and soils? What is chemistry but a knowledge of the grains, and the soils, and the air, and water? What is biology but a knowledge of the life forms, both animal and vegetable, with which our children have to do? Physics concerns heat and light and electricity, which will we believe shortly, not only light our houses and streets, but prepare our produce for consumers and carry it to market. In their elementary forms no studies are simpler than these, or more spontaneous to childhood. Elementary study of flowers, trees, insects, birds, stones, brooks, with a bias toward application to every day farming, is not only possible with our young folk but eminently attractive.

(6). When I add that American education should be distinctively industrial, I certainly do not mean all education everywhere should not become industrial. But in our states we have no aristocratic element that need not work or understand work. Whatever aristocracy we have has been made so by successful work. We find the great distinction between our own laborers and foreign laborers is that our people have become accustomed to apply brains to toil. This habit has come not from our schools so much as from our social habits: from our inheritance, through New England and Old England, of a choice stock of nation-builders. To hold our industrial eminence requires the utmost care. Our population increases annually by one fourth of a million of foreigners, few of whom are trained to work with thought and skill; but these all become citizens and parents of the future. Our financial distress involves in the main at least intelligent workers. The time has come when we must systematically train hands as well as heads. Manual training schools are tentative. They point the way. Our whole common school system should become industrial. We shall be compelled to build something more than school buildings, with books and blackboards. Shops will surely be added; and we shall train our boys and girls in the

living arts as well as the polite arts. If we consider that the human structure branches away from the animal at three points, the enlarged brain, the voice organs, and the hands, we shall not be at a loss as to where education is to apply its force. Clearly the evolution of higher humanity is concerned with language and with tools as much as with brains. Industrial drawing and music are as integral parts of a right education as are penmanship and calculation with figures. Mr. Swan, Master of Winthrop School in Boston, says, "My brighest and best scholars would come to me months after graduating, with tears complaining that they could not get situations accordant with their ambitions; but despising others who had gone to work at some hard labor." On the other hand he saw wild rough girls take a thorough course in handwork, and then graduate not only able to support themselves but to elevate whole families. He became satisfied that that is a false system of education which causes boys or girls to despise honest work; which trains only in book culture and not in hand culture. Boston has now not only manual training in the mechanic arts, but there are fourteen central public kitchens, and a course of thirty lessons in cooking is a regular part of the second year curriculum. The Swedish Sloyd system is taking root in many cities, instilling not only a taste for manual arts but developing exactness, economy, perseverance, and concentration of power. The best thing about this drift is the restoration of labor to an honorable position. Americans have been steeped in a petty shame for hand-work. When honor belongs to those who can and will do something, and do it well, we shall have solved the problem of poverty. It is to be hoped that in the next generation the workman's white paper cap and bare arms will be as honorable as an Oxford cap and bedraggled gown — a poor cover for bad Latin, and often worse English.

(7). But has not the neglect of physical training as a whole been a vital and characteristic neglect of American schools? It is not necessary perhaps to discuss the question whether the American is physically degenerating; but it is certainly true that we have aggravated nervous ailments, partly by our diet, and partly by high pressure business; and farther by high pressure education, until the medical authorities have become alarmed. Insanity has enormously increased in proportion to the population. We have been indebted to the North American Turner

Bund for a propulsion toward a scientific and harmonious development of the whole being. School gymnastics has gradually been adopted; and athletics is considered a genuine part of college or common culture. The need now is to thoroughly work this idea into the whole system of education; until it shall be seen to be as legitimate for our universities to care for the body as it is for the kindergarten. Every muscle should be under tutelage. Our present athletic stage is one of toleration however; it must pass forward to one of adoption. The American pupil must have health in order to become a thoroughly healthy citizen: performing his functions in church and state for the welfare of the commonwealth. Physical culture having become a demand, cannot be left where it is, as an affair belonging to the youth themselves and not to their teachers. The brutality of foot ball is a fortunate pressure brought to bear on our tardy authorities to put physical culture precisely where they have placed intellectual culture.

(8). Finally it must not be overlooked that a republic makes its appeal to the individual, as no other form of government has done or can do. The older social unit, the family is suppressed or ignored. The individual votes, the individual is honored or disgraced, not the family. Family attainder and family ennoblement we are scarcely able to understand. The result is a weakening of the family tie. Socialism is the later substitute. The state supplants the older social bond. Our children are educated by the state. But we have no surety that the dissolution of the family can go on without disaster. There and there only are held the sweetest, strongest, most beautiful of all human relations. Certainly there is no reason why we should follow this drift of individualism to an extreme. The Pilgrims ordered not only township but family education. "None of the brethren shall suffer so much barbarism in their families as not to teach their children and apprentices so much learning as may enable them perfectly to read the English tongue." Our schools need to be linked back to the family and based on family life. This is being done in no direction that I can see except the mother's classes established by the kindergartens. These, instructing mothers in home economy and the art of child-culture, are at the very basis of American good life. But why shall not a completed system of education touch the family at every point? Why shall

education end for the masses at twenty or under that age, while only a learned class pushes forward? Are not the practical arts and fine arts as well as the sciences matters of every day home development? Our educational system assumes that culture shall be clipped off at the close of public school days. University extension is tentatively suggesting a remedy. But do we not need high school extension and common school extension? There is a great light thrown on the case by Doctor Harper's plan of home university studies. But all this is traceable back to the Chautauqua system.

TRANSLATING FROEBEL.

L. & E. G. SEYMOUR, BROOKLYN, N. Y.

TO THE EDITOR OF EDUCATION:

Dear Sir, — The "International Education Series" has recently issued a translation of some essays by Froebel, under the title "Friedrich Froebel's Pedagogics of the Kindergarten."

It is a striking fact that this is the first time any translation of Froebel's writings on the Kindergarten (i. e., subsequent to 1836) has been published in English. Even in German, no edition of these essays has been published since 1874. And yet the spread of Kindergartens and of "Kindergarten ideas," is evidence enough that Froebel is not falling out of sight. On the contrary, any one familiar with educational matters knows that — to speak only of the American public — there is now an interest amounting to a thirst for knowing about Froebel, and what Froebel meant. Now, *for the first time* there is getting to be any general demand for his writings. And this compels us to lay the question open, whether or not it is worth while to have in English what Froebel wrote, and as Froebel wrote it? The present editor and translator do not seem to think this the desirable thing. They may not be open to criticism on that account, for there seems to be a widespread opinion that Froebel's actual writings are unintelligible and this rendering may be an effort to make Froebel understandable. If so, it stands precisely on the footing of the many other writings *about* Froebel's meaning, and should be recognized as such.

But in any event, it is not a translation of what Froebel wrote as Froebel wrote it, as anyone may discover who will take the pains to compare any part of it with the original. And a plain objection to such a course as apparently has been taken in this book is, that even if Froebel's writings seem unintelligible to any editor and translator, they may not be in fact unintelligible to other people. And here is just the point of the present situation: there is need of a great many intelligent persons' ideas about what Froebel meant — persons who only read English, or who can not get the rather scarce German edition. Perhaps by this means an entirely new and much truer comprehension will be reached of the fundamental principles of the Kindergarten.

Anyway, no one in his senses thinks that all the meaning has yet been squeezed out of Froebel — whose very writings are neglected in the original and unknown in English. For we wish to emphatically call attentien to the fact that the present translation in no way gives Froebel's language-work, in our opinion, Froebel's meaning. The translator has so far paraphrased Froebel in many — and these usually the most essential — matters, that the book might better be called *this translator's* Pedagogics of the Kindergarten. Some people may quite agree with the translator's views, but, whatever may be said about them, its readers are restricted to those views. They have no opportunity to form an opinion about *Froebel's* views; while, at the same time, they are misled by the title into thinking that they have Froebel's statements before them.

For ocular evidence of this wide discrepancy, we subjoin a close — however uncouth — rendering of about the shortest of the translated essays — one which has a peculiar importance as dealing directly if briefly, with the principles of education as Froebel understood them.

And we submit that its intelligibility is just the matter which should be left to the public instead of being finally passed on by even the most able editor and translator.

Very respectfully,

L. & E. G. Seymour.

Southfield, Aug. 21, 1895.

SECOND REVIEW OF THE PLAYS. — A FRAGMENT.

Since we have been repeatedly asked, from many sides, to set forth in review the wider following-out of our Play and Occupation-materials, and their outward and inward connection with one another; and since now an essential part of them in one direction [i. e., that of the Cubical Gifts] has not only been worked out in farther series, but also has been used for a considerable time in the life of children, and their fruits lie before us — we gladly proceed to meet the kindly, helpful wish. We connect this review with the one given before, but we seek at the same time (since now, farther experiences and actual sense-impressions lie before the intelligent, inquiring reader) to take hold of the subject yet more deeply and all-sidedly.

Nature, in the *continual development* of life (hence, in the exhibition of the Being of each thing, and in finding the *conditions* for the complete manifestation of each thing in itself) can and must serve for the type and path-shower; as it is the strong, unspoiled heart [Gemüth] of man which serves him as the moving-power thereto [i. e. to the exhibition of *his* Being, etc. ?]. For in Nature we see each thing develop and shape itself, always complete in its own kind. If now, we seek for the ground of this phenomenon, we find a Threefold one:

First, each thing and each existence and object which shows life, develops itself according to the *universal*, highest and simplest *Life-laws;* thus in union and harmony with itself and with its *origin*, revealing these laws themselves and so their origin, in the particular phenomenon, as the collectiveness of its phenomena. ["Unity."]

Second, each thing and each object in Nature shapes itself, entirely true to its *Individual-being*, and the *particular* laws of that ["Individuality"] Finally,

Third, each thing in Nature develops and shapes itself under the unabridged, Collective-inflowing of all things. ["Diversity"*]. And if ever an object seems for once to escape one of the collective-influences, always it is only the direct influence that it escapes e. g. if one wards it from the on-working of hot sunbeams by a sheltering roof. Yes, this escape, even, is founded in the nature of the influence and so proceeds from it.

* As to this law of triune creative self-activity in "unity, individuality and diversity," see *Ed. of Man.* (Hailmann) §§ 60, 61, especially p. 150.

If now, we fasten this Three together, we find in it, one which binds and unites all three again. This is called, according to various stages of development: Work, Impulse [Trieb.], Life, Life-impulse, *Activity*, which manifests itself again in each individual: as a *Springing-forth*, (Developing, Working-outwards) [Making the internal, external]: as a *Taking-in*, ["Making the external, internal"] and as a *Digesting*, Shaping ["Reconciling and uniting external and internal"†].

Thus Life (Work), and indeed in unity with Life in itself, with the well-spring of all life in *God*, is the union and mediation-point of all. Fast-holding of this Life-unity is the ground-condition for the appearance of completeness — the completeness first of all in Nature. We must thus in the first place, clearly *recognize* and *use* in human life the conditions of *Nature*-completeness, if we would also raise *man* up to the stage of man and of spiritual human-life — at least to such a stage of completeness as Nature shows in her forms at their stage. The Wisest of the Wise himself demands this.

But now in Nature and in the All, all things develop themselves as members of the World-whole and All-life — as *Gliedgauze* — each complete in its kind, because each, as it stands in the midst of the unhindered up and in-streaming Collective-influences, gives itself — yes, in sure relation — up to these, as *Taker-in*, develops itself also undisturbedly true to the most universal as to the most particular life-laws resting in it (as Digesting and Shaping).

But man, who overlooks all, must develop — raise — himself with ever-mounting consciousness, to final clear [complete] consciousness of his life according to [its] ground, condition and goal.

But now we see in Nature that each following stage of development not only does not exclude the foregoing, but takes it up into itself, ennobled, uplifted and more mature; thus also must man, beyond all, unfold himself in harmony and union with Nature, and so in undisturbed concord with the Collective-life, as with the Life-unity and the Life-spring; but he must also — by continual carefulness for his own inner life and nurture of it (hence duty) — live according to the unchangeable Existence

† As to this law of development, see *Ed. of Man.* (Hailmann), pp. 170, 175, 179–'80, 209, etc.

and Life-laws resting in God, revealing themselves to the man himself and in him. He must live with self-choice, and self-act, in *Feeling* and *God-united consciousness* of life.

Hence we would — as we do it in print, so actually in life — make the unity and divine harmony of all life perceptible to the senses [wahrnehm-und anschaubar] of our children. Yes, make it representable in their own lives, in order so to clear and confirm the one by the other.

But no phenomenon of Force and Life is *without* [bodily] forms and *shapes*. That we know from the light, the warmth, the tones, etc.; much more does all life and its obedience to law announce itself as appearing only in Shape — *harmonious* life in *harmonious* shape — conditioned through *Form* and *Magnitude;* and the Form appears again in Differentiation [Gliederung] — the Magnitude again in Division [Theilung]; but again both appear in and through Multitude, Multiplicity, through divided *Wholeness* or Number. ‡

Thus in order properly and rightly to take hold upon man, the child, from the beginning onward, as a being destined to consciousness from the first moment of his existence in the collectiveness of his relations — and this even in the first manifestations of his *activity* and his apprehension of the surrounding world — we gave the child as the first Plaything in all the above indicated relations and, as it were, as the harmonious picture and representative of the All, the Ball.

But in the proposed play-exercises with the Ball which have been mentioned, are indicated all universal properties of Bodies and Things, and so to the use of it connect themselves, and from it proceeds the consideration, the knowledge and recognition of the collected universal properties of the objects in the world surrounding the child: Stuff, Weight, Force, Solidity, Self-power (Springing-power); in the Shape — Form, Magnitude and Number as a Trinity in itself, etc. So the Ball appears (as clearly proceeds from the diversified sense-impressions and representations in this book) as Introducer into Nature and Opener of the surrounding world — as well in its outer phenomena and relations as its inner life. In the hand of intelligent Childhood-nurture, and in its unity and harmony, it leads on to the true comprehen-

‡ As to the Trinity — *form, magnitude* and *number* — in the constitution of every whole, and the necessity of it in education, see *Ed. of Man.*, § 76.

sion [Auffassung] and guides to the right use, of the objects of the surrounding world — especially, too, through the Opposites announcing themselves to the child through it. The Being and relation of the Opposites,* through it, emerges still more clearly, since from it the Sphere and the Cube develop themselves.

Now, in continuing, we connect the second review to the review previously given.

Both, Sphere and Cube, may now be given to the child either united and at the same time, or entirely separate. First, particularly, as has just been emphasized, for the child's clear comprehension of all in the surrounding world, and Opposites meeting in Life, and the harmonious reconcilement of these Opposites; for the Sphere is preëminently and before all, the expression and picture of the Internal, represented all-open, outwardly clear and still, veiled; the Cube, on the other hand, is preëminently rather the expression and picture of the Internal represented only partwise outwardly, but distinct and unveiled — and so the two reciprocally clear up and complete each other. The play with the *Ball* leads the child insensibly by the hand of heartful and experienced child-nurture through universal properties of the Ball, to the *universal* knowledge of Bodies, Nature and Life; the play with *Sphere* and *Cube* — particularly the comparing play with them on the other hand, leads the child more, and preëminently to the *particular* knowledge of Bodies, Nature and Life.

TURNING THE SCALE.

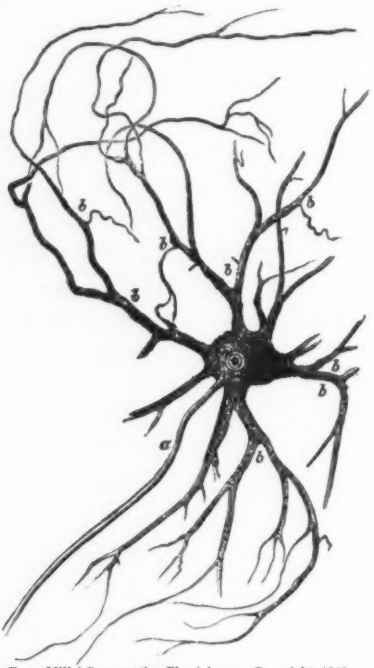
RUTH WARD KAHN.

As Nature toying with the dawn,
A thousand pearls oft throws,
To rouse the spirit into life
Of a single sleeping rose;
So, but one tripping of the feet,
May have the power to throw
Night's darkest shadow o'er our hearts,
And fill our days with woe.

* The Opposites, universally are the internal *Spirit*, which is single (indivisible) — and the external *Body*, which is manifold (divisible).

"MIND-BUILDING" BY SENSE DEVELOPMENT.

S. MILLINGTON MILLER, M. D., NEW YORK CITY.



From Mills' Comparative Physiology. Copyright, 1890, by D. Appleton & Co.

MULTIPOLAR CELL — PHYSICAL BASIS OF THOUGHT.

THIS illustration represents one of the myriad multipolar-cells in the brain of an adult. It is the "physical basis of thought." All those little outreaching tendrils, branching out from the main bulb, like the feelers of a root, are only developed by education. They are not found in the brain of a child, nor yet in that of an idiot, to any marked degree. They look in such brains like an unexpressed thought, — as if they were but too anxious to reach out and make their proper connection and form a real link and not an embryo link in the chain of mentality.

The teacher commands the auditory-centre of a child through its ear, and by insistently repeating a certain idea, over and over, to that child, develops the brain tissues of that particular nerve

centre; causes blood to trend to it, — just as continually beating and assaulting any portion of the body will cause blood to rush to that spot. The aroused brain-cell sends out a tiny, feeble feeler in response to the demand made upon it.

In time, as it awakens, more and more to its responsibilities, it puts out other feelers or tendrils. These, reaching out seek for something to cling to, and form a connection with other cells which have been aroused by appeals to corresponding senses. In the mind of the idiot these undeveloped feelers or tendrils have to be aroused and awakened in a similar manner, but it requires very much more time and patience than in an average child.

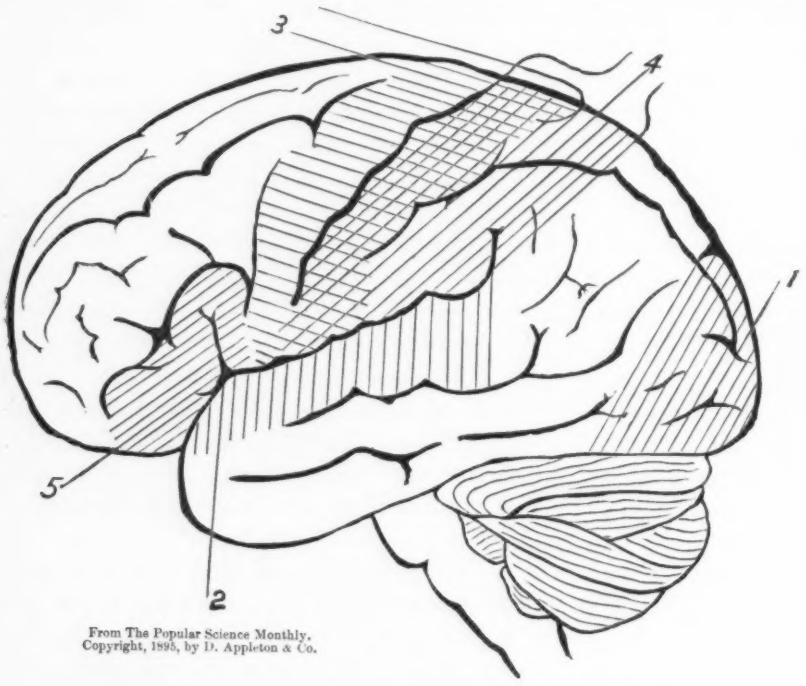
It should be premised that in most cases of idiocy the moral sense and the physical senses are about equally deficient, and with this is joined a general lack of nervous and muscular coördination and tonicity. Many idiotic children have tremulous, shaking hands and feet. One instance was noted of a baby whose body folded up like a triple screen, when lifted out of bed. Such children have no instinctive power over the involuntary muscles. Even the sensation of physical pain is dulled in the feeble-minded. An idiot runs his finger across the edge of a sharp knife. His only sensation, if any, is the difference in color between the crimson blood which mounts to the surface and the hue of his skin. An experienced teacher of the feeble-minded feels assured of promising development in other directions so soon as the idea of color dawns upon the child's mind.

Physical sensation is intensified according to the degree of intellect a person possesses. People with brains ever on the alert and intuitive intelligence, experience either pain or physical pleasure to a far greater degree than do those whose mental ability has never been so highly developed.

The sense of touch, or what is known as general sensation, is the most acute of all the five senses. Darwin's litter of white cats (with blue eyes) which are always blind at birth, proves this. If one has a litter of these cats it is almost impossible to arouse them by any of the ordinary methods. The most violent motions made before their eyes, or the loudest shouting in their ears disturbs them not in the least; but just blow on the fur of their backs, and every kitten immediately becomes a picture of moving life.

Every one marvels at the brain-like sensibility of the hand

which can pick out a counterfeit note from a pile of a hundred bills, when the owner of the hand is blindfolded. The tactile or inner surfaces of the fingers, where all this sensibility exists, consist of an endless number of Pacinian corpuscles, set in rows on the ridges of the inner ends of these fingers. According to Meissner, these corpuscles crepitate or give forth a sound, and these sounds differ at every age of every individual. In the case of the blind, this sense of touch is so phenominally developed that if they



From The Popular Science Monthly.
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OUTLINE OF HUMAN BRAIN, SIDE VIEW. (After Ecker.)

1. Area of sight and its memories.
2. Area of hearing and its memories.
3. Area of motion and its memories, { upper one third, leg. middle one third, arm.
4. Area of touch and its memories, { lower one third, face.
5. Area of motor speech-memories.

The areas of motion and general sensation coincide to some extent.

finger an object carefully several times they are able to form with clay a correct copy of it. I have been through the cabinets containing these plaster creations of the blind, and was so much struck with their fidelity to nature and to life that I remarked to the superintendent that I thought a little careful education in this line would turn out some *Karl Bitters* from his institution."

If I ask a blind boy how it is that he is able to walk down the street without bumping into any person or object, he tells me that his general sensations are so acute that he can feel the nearness of an animate or inanimate being before he gets to it. This is a development of the same intuitive knowledge that one is said to have (when they are introduced, blindfolded, into a strange house), whether that house has ever been lived in by human beings. The blind person has an unmistakable appreciation of what I might call the human atmosphere.

What is the meaning of the term, tissue-habit? That is a very interesting topic indeed. A violin made by Stradivarius and used during his life-time by some eminent *virtuoso*, possesses during the balance of its life-time musical qualities which its twin-born instrument, unused by *virtuoso*, could never possess.

The strings of the first instrument have been moulded, by the hand of the master, in the very shape of the soul of melody, and preserve that etherial sound-producing quality forever afterwards. In just this same way nervous tissues which are composed of cells and connecting fibres, acquire a habit of the transmission of certain sensations and the performance of certain thoughts.

What is called "racking the brain" is due to this condition of affairs. It is as if a solitary wayfarer in the woods had reached a point where his path branches out in half a dozen different directions, and not knowing which trail will lead him to his objective point of destination, he is obliged to try each path in turn, in vain, and is at last compelled to strike out of his own accord through the woods. Thus it is that a sensation (which did not sufficiently impress itself originally upon its sense centre) in search of this vague memory, runs down this fibre and down that fruitlessly, and finally is obliged to absolutely create a new pathway of thought. As Professor Jordan very appropriately suggests, it is not nearly so important that all the sensations of a growing child should be impressed upon it as that those which it will need in future life shall be indelibly burned into its brain.

It is plain that the education of a child is not a "drawing out" at all, but a building up.

There have been recent experiments made in several scientific centres of Europe upon the brains of monkeys. It has been found that the intelligence of these already intellectually alert animals can be very much improved by patient education of the various

sense and motor centres. The monkey is a very docile animal and far more ready to receive education than a vast majority of children. It seems with its pathetic face to understand the limit that its intelligence has reached in the process of evolution, and is not only ready but willing and anxious to see beyond the pales of its knowledge.

It is a well known fact that monkeys are often caught imitating man — making clumsy efforts with the razor to shave their chins, and perhaps pointing pistols at each other, if they can get hold of such dangerous implements.

The process followed in the case of the monkey is a patient and laborious education of a certain centre in its brain.

Let us suppose the case of a monkey who is very dirty and slovenly in appearance. It has been found that such an animal can be made to wash itself just as a man does with water; to comb and brush its hair; to clean its teeth; to wear clothes and to *show great facility in putting them on aud taking them off.* The monkey is such an imitator that the only trouble in these cases has been that the special education given to it, runs riot with its brain, so that it is constantly brushing its hair, or cleaning its teeth, or putting on and taking off its clothes. In matter of fact the possibilities of the mental development of the monkey, and of the dog, too, are absolutely unlimited, and it is not at all unlikely that the voice-centre in the brain of these animals, and their vocal chords can be so developed as to enable them to use articulate speech.

The smell centre in the human brain is far inferior in point of development to the same centre in the brain of the dog. No man can locate a bevy of quail by their peculiar odor, but we all know how competent a pointer and setter are in this direction.

The curator of one of the art societies in London recently received a consignment of quaint little square boxes from Japan. They dated back by some of their inscriptions to an early fifteenth century dynasty. Upon opening a box he found the contents of each to consist of tiny bottles of incense with a platter in the midst. Upon referring the hieroglyphic directions which accompanied each box to an Oriental scholar, he discovered that they were to be used in a game which I might call — "Guess the Incense." Four or five people would sit around a table and the contents of one of the bottles would be poured upon a platter and held over a brazier. The person who guessed

the proper name of the burning incense took so many of the counters accompanying each box. In other words, it was a game intended to test the delicacy of the sense of smell, proving that in those earlier times the sense of smell in man had something like the discernment that is now shown by the dog.

The sense of smell in man has been allowed to fall into desuetude, while in the dog, it has always been and is now being carefully cultivated. If man's sense of smell has become vestigial, why should the dog's and monkey's speech-centres not be capable of development?

RHETORIC FOR SCIENCE.

SAMUEL W. BALCH, YONKERS, N. Y.

THERE is need of a treatise that will compile for science what rhetoric has gathered for literature. The felicitous expression of the thoughts that belong to history, biography, fiction and drama has long been the subject of careful investigation and study. In these departments language has been most carefully elaborated and applied; but thought now often enters into fields where verbal expression is of little avail. Such is the case in many lines of scientific investigation.

For these chemical symbols, formulae, diagrams, tables and drawings, as varied almost as the departments of science itself, have been devised. They still need to be collected, systematized and extended.

Rhetoric is the art of adapting the connected communication of thought, in harmony with its subject and occasion, to the requirements of a reader or a hearer. This is substantially the definition given by Genung. It points out the modern scope of a subject that at first was only the art of oratory, but which, owing to the extension of printing, now embraces both written and spoken discourse.

The first line of a prominent rhetoric, which is open before me, bewails the fact that a book on so old a subject can scarcely hope to give the world much that is new. There is surely wide range for novelty in discussing the varied modes of expression peculiar to science. But these are allotted less than a line in the work and then dismissed as too rudimentary to admit the idea of style.

Doubtless they are as yet rudimentary, for many of them have

not existed as many years as language has centuries. Still, the definition of rhetoric is broad enough to include them, and if it is ever to lead in the formation of style and not merely follow, it will have to take them up and determine their proper lines of development and field of usefulness.

Herbert Spencer has pointed out that the central principle of good style lies in the economizing of the reader's attention. If such economy is to be attained by brevity of expression there is surely no better illustration to be found than in the notations common to mathematics and to chemistry. The expression of thought in small compass, however, does not always gain this desired end. When it involves forms of notation to which the reader is not accustomed, the attention must be divided between the thought itself and the interpretation from the peculiar mode of expression. An indicator diagram, for example, conveys at a glance to the steam engineer a vast amount of information concerning the peculiarities of the engine from which it was taken. But that same information put into words would, to most people, be much more acceptable. Verbal expression is consequently not to be despised, and some consideration of its possibilities and limitations will be well worth while before proceeding to graphic methods.

Words are spry little elves, and there is hardly a fact or fancy that they do not find an opportunity to convey. But many indeed, are the tasks for which they are little adapted. They must be understood symbols to be of value. Singly, they can only call up thoughts already in the minds of those to whom they are addressed, but, when in the service of science they must collectively carry that which is new.

Mechanical inventions must be verbally indicated and claimed when patent protection is to be obtained. This is required by the patent law. But since words can by themselves only represent what is old, the novel ideas must be presented as a new assemblage of elements that by themselves are better known. This is why the word "combination" expressed or implied is generally a factor of patent claims. But, even when such claims are at their best, one cannot but feel that they have been dictated by law rather than by common sense. They are at best but enigmas; mosaics, made up of sounds that by themselves have little suggestion of the thoughts they are required to convey. The hearer or reader must possess the same sort of genius in

interpreting the combination that was required in putting it together. This is why such compositions are so dry, and the more labor bestowed in their preparation the less interesting do they become.

There are articles on scientific subjects, however, that require talent in their composition and that are widely published and read. They are apparently of a scientific character and find their way into popular newspapers. Such popularizing is an art by itself. As much talent, and perhaps more, is needed, than is required to write in a more serious vein. It is an interesting study to take such an article apart and see how it is made. The opening paragraph briefly covers the subject, but in such a way as to leave a thirst for more. Then follows a re-statement in more extended space. But, even here, the kernel of the matter is put clearly and concisely. Collateral facts, which are purely scientific, are not so much as hinted at to keep them from being missed, and then the article is padded out to such length as the subject seems to require with suitable words.

This is where the art comes in. The words must not open up side issues, for that would distract attention. They must not scale over any of the ideas, for then their effect will be merely to dull the perception and draw the temper. In fact, among the many limitations there is really but one way in which to liven up an abstruse subject with words and give them their fullest freedom. That is in revealing the relations that human nature does and does not possess with the subject under discussion.

Here words are at their best. To express the feelings that arise within ourselves and that are incited by everything about us is the natural province of speech. It seems to be all that monkeys talk for, and as I read the average run of literature I sometimes think that mankind does not often extend the application of language to purposes much beyond.

United States patent specifications contain the best examples of language restricted to mechanical thought. But nobody ever reads them if the invention can possibly be deciphered from the drawings. The other day a friend of mine wanted a patent on a simple little improvement to one of his machines. But instead of writing what the improvement was, he wrote to call and see it. Two minutes time proved ample to see all there was to his invention, and there were not two dozen words wasted while

showing it. He first picked up two samples, and exhibiting one, remarked: "This is what the machine used to make;" then while remarking, "that is what the machine makes now," he exhibited the other. "Now stand there," he continued, as he pointed with his hand. Then, proceeding to turn over the cam-shaft, he concluded by saying, "that is what I want to patent."

It took a thousand words besides the drawing to put that idea on to paper. It had to be all covered up with words so that the unfortunate individual who is compelled to read it will be all fagged out with stripping them off and in no condition to appreciate the idea when it is reached.

The printed page is the greatest means of the age for communicating thought. It has enabled the scientific investigator to record the results of his labors so that he who follows may take up the work where his predecessor left off, and not where he began. But in this service printer's ink and paper have serious limitations. There are many results of scientific investigation that the printed page cannot well portray. It has only two dimensions, but in expressing mechanical facts it is often necessary not only to make clear the relations of the various parts in space of three dimensions, but in addition it becomes important to show the movements of the parts, their time relations, and the modifying effects arising from the properties of matter of which the several elements of the mechanism are composed.

To so express one's conception of a machine that it can be passed between the rollers of a printing press, is, therefore, no easy task. In fact, it has sometimes proved to be a problem too difficult to undertake, and the invention has in consequence perished with its originator, instead of being handed down for succeeding generations to perfect. In consequence of this, the marvellous progress of this closing century has been an unbalanced one. The properties of form have been seized upon and utilized, but the properties of motion have been neglected. Take the typewriter for example. Thousands of little conveniences have been invented for it in the way of paper guides and pleasing shapes; but until recently, its noisy click has been a perpetual protest at the neglect of all improvements that will conduce to smoothness of operation.

From what has been said, I trust it will be clear that written language, even when aided by drawing, is not as versatile as

human thought. The mind turns to many channels where neither words nor pictures can follow, but in which suitable means of expression are needed. To call attention to this need has been the purpose of this writing, in the hope that upon its recognition, ways will be found to supply the want.

CONCEPTION AS A MENTAL ACT.

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CONCEPTION, from "concipere — to conceive" — from "*Con*, together, with," and "*Capere* — to take, seize, to form or possess" — means, literally, to take with or together, to seize upon and possess, to come in possession of: and when applied scientifically, as in physiology, or the animal economy, it means the inception of life by the fertilization of the ovum: in plant life, a similar process, through the agency of the fertilizing pollen, whereby seed is produced.

In a psychological sense, it means the power the soul has, through the agency of exciting causes, such as sense-perception and intuition, to come in possession of, or to generate concepts or elementary thoughts, which, like conception in plants and animals, develop through a process of evolution — (apperception) — into such a stage of maturity as to come to birth or expression in forms whereby their mission is fulfilled, i. e., reproduction and propagation in kind, though improved in forms and in numbers.

In all these respects, it will be observed that contact of the active fertilizing agency with the passive or receptive instrument or capacity, is a primal necessity. In the physical world, it is the contact of organic secretion, whereby life is generated: in the metaphysical world, it is the infringement or impression of externality, through perception, or the senses, upon the sensorium, whereby thoughts are conceived and born. The law in the several cases is one and the same.

Conception differs from perception — "*per*, through or by," and "*capere*, to take, to seize"; hence, to lay hold upon externally — in that both its source of knowledge and manner of knowing are different. The first, or source is from externality, hence objective; the second is internal or subjective as to source; while the manner of perception is initial or presentative and total, perceiving things as wholes, before descending to parts, which it immediately proceeds to do, hence, analytic in its apperceptive

or second stage. Conception, on the other hand, is representative and synthetic, seizing upon known parts as individual wholes, forming aggregate wholes, whereby general notions of things are formed, and generic truths reached by comparison and classification.

It differs also from comprehension or general understanding, in that it simply furnishes the elements or conditions for comprehension or thorough understanding; as, he conceived the idea or notion that the earth is a sphere; though he could neither perceive it as phenomena, nor could he as yet, thoroughly understand it as theory or fact. It existed in his mind only as incomplete, unfinished or unborn thought which subsequent events gave birth to, developed into demonstrated theory or fact.

Conception, therefore, is to complete thought or thinking, what the processes of reproduction are in the physical world; as, "She conceived and bare him seed" — children: — so thoughts are conceived and born. They are conceived by a species of contact, the outer world with the inner, through sensation; and come to birth, after maturing sufficiently, in forms of expression, or good language.

This meaning of conception, which I maintain is the true one, both as it relates to the etymology of the word and the facts intended to be conveyed by it, has been overlooked by the psychologist, generally. The meaning he usually attaches is simply what follows, after conception, as an act, has already taken place in the mind; as in generalization, classification, etc., implying the exercise of comparison, discrimination and identification. These mental acts follow conception as naturally as birth follows conception in the animal world; but they form no part of it; and they cannot exist prior to it.

Conception follows perception as naturally and necessarily as analysis follows synthesis, instantaneously: for, in these last named processes, the whole or synthetic thing implies and includes the parts which analysis reveals. The one cannot exist without the other, even in mind. And while the whole — the total — is perceived first as a whole, it implies the parts composing it, making these two mental processes, chronologically, simultaneous; but logically, synthesis stands as antecedent, and analysis as consequent.

The same is true with regard to the properties of things, as color, form, size, place, number, etc. The existence of one implies

all the others; and the thinking of one suggests all the others. And the aggregate of all these inhering in the same or different objects, constitutes the concept or mental picture of such object or objects. Concepts are therefore the aggregate of percepts, generalized and applied to the same individual; and the comparison of these percepts gives rise to classification. This, however, is the completed concept, and embraces that which follows the first act of conception, or "concipience."

Conception, therefore, as a mental act, is the germination and evolution of thought from the inherent mind germ or capacity, acted upon and fertilized by contact with something external to itself and capable of impressing it through perception or intuition. It is also the holding together of differentiated elements as a unit in any total object, thus forming a mental picture that compels consciousness.

This brings the process of thinking within the domain of the well known laws of growth, employing a dualty of agencies, which we find existing in all departments of nature. And it gives us a most useful hint in the study of language through the thought processes. First, there must be suitable *impressions* from externality or environment, to fertilize the mind; secondly, there must be a suitable period of gestation or *evolution* in which the percepts produce a harvest of concepts; and thirdly, there must be parturition, birth of thought, or *expression* in the form of clear, forcible language.

It also decides the question as to the order of Analytic and Synthetic studies or Methods, and the deductive and inductive processes of thought; since in both cases, the one cannot exist, in complete thinking, without the other, any more than a whole thing can exist without its parts. Even thought processes always conform to nature's laws. These laws are inexorable as revealed in all her operations; and any attempt to counteract them, to shorten or to improve them, in any essentials, only multiplies our perplexities and seriously hinders sound, healthy growth, both of mind and body; because the living energies of youth thus divided, thwarted and dissipated, are sure to fall into such hurtful habits that the whole being, soul, body and estate, suffers thereby.

When shall we learn these laws and obey them in our treatment of children? When shall we learn that the child is greater than his work, greater even than law or learning? When shall we learn to fit the work to the child, and not the child to the work?

METHODS OF STUDY AND INSTRUCTION.

HYLAND C. KIRK, PHELPS, N. Y.

AMONG the causes of waste of labor in the work of education, as cited by President Chadbourne in his celebrated essay on that subject, are enumerated: "Imperfect teaching"; "Time wasted on unimportant matters"; "Want of thoroughness"; "Misapprehension of the real purposes of study"; "Study merely for discipline"; "Premature forcing"; "Want of properly grading"; "Toleration of old errors"; "Irregularity of attendance of pupils"; "Want of enthusiasm on the part of teacher"; and "Neglect of moral training." That more than one-third of the time and strength of all who labor in our schools, is wasted through these and kindred causes, is a safe estimate.

That this waste is felt by communities is no less true, though a complete realization of the fact on the part of those experiencing it is not always manifest. The existence of such a feeling is shown by frequent changes of teachers in a school, frequent changes of text-books, and in much of the legislation affecting the attendance of pupils, school supervision and similar matters.

Of these causes of wasted labor, more than half doubtless would be cancelled if educators were accustomed to use definite methods of instruction and to inculcate similar methods of study in their pupils.

The end of instruction is study. If the pupil knows how to study, the teacher's work is finished. Sufficient evidence of this is found in the numerous examples that the world affords of what are termed self-made men. It is folly to say that Franklin, Jackson, Clay, Greeley and Lincoln were uneducated. They differed from such men as Jefferson, the Adamses and Sumner, chiefly in the fact that they learned to study without the aid of teachers.

Effective study involves at least two considerations; the power of comparison or thought, and interest in the subject pursued. Beyond these, where the pupil is at work on various subjects, some knowledge of the relation of the one in hand to other subjects is plainly desirable, as well as ability if necessary to arrange the various topics relating to the given subject in an orderly man-

ner. A pupil capable of embodying these points in his work needs no teacher, or rather the value of the teacher's work in such a case depends upon his ability to keep up the pupil's enthusiasm and criticise his work. The attainment of the requisite thought power, however, by the pupil, depends in no slight degree usually upon the teacher's comprehension of the mental faculties with their order of development and his discernment of the pupil's special peculiarities. The successful teacher may not be versed in the terms of psychology, but he must understand human nature to which that science refers.

The stages passed through in attaining the power of abstract thought may be enumerated as follows:

1. Sensation and simple perception of difference; as in the case of the child distinguishing one color, toy, or person from another. It includes the comparison of objects as wholes, and the representation of such comparisons by names.

2. Comparison of parts of an object one with another, and the representation of such comparisons. This is ordinarily the beginning of true study, and is illustrated in solving a problem in which the terms are concrete, or in sketching a landscape.

3. Comparison of the relations between objects or the parts of an object, and the representation of such relations; as in solving abstract problems or analyzing a sentence.

4. Finally, the comparison of the relations of relations, as in pure mathematical reasoning, and the representation of such comparisons.

There appear to be but two possible ways of studying any object or thing; one by comparing it with others, and the other by comparing the parts of the given object or thing one with another. Obviously the former of these processes comes first in the natural order of development, because the child discerns objects as wholes before it discerns parts of objects. In attaining the power of abstract thought progress in each successive stage in the process demands not only that the discriminating power be sufficiently developed in the previous stage, but also that the memory be sufficiently strengthened to retain such comparisons and their representative symbols.

Luckily, discrimination and memory go together, provided the conditions are favorable. A marked sense of difference between objects makes a correspondingly deep and lasting impression on

the memory, and conversely, a present clear impression of a fact indicates a previous keen discrimination or the repeated exercise of such power on the given fact. Hence, the conditions favorable to the development of one faculty are favorable to the development of both. Chief among these necessary conditions — those which the teacher must recognize, are:

1. The good health and habits of the pupil.
2. Absence of distracting causes.
3. Interest in the subject and enthusiasm for the work.

As the mental faculties begin with sensation and attain to abstract comparison, so study beginning with the observation of facts and their generalization, finally attains the power of determining necessary results from given principles. The former method of study is called objective, because beginning with concrete objects, facts, — analytical, because the facts are analyzed to determine their resemblances and differences — and inductive, because passing from the facts to their relations. The latter method of study is called subjective, because the subject is defined and classified with reference to its arrangement in the mind, — synthetical, because the given principles affect the facts as wholes — and deductive, because from the principles given, inferences are drawn which we believe must be true.

These methods are fundamentally one, because each is but a mode of comparison. While the student should begin with the objective method, some regard must be paid from the very outset to the subjective method as well — by the teacher, if necessary, as proxy for the pupil till the latter attains power himself. The general student is not expected to dissect the human body in order to know something of its structure and functions, nor to travel around the earth in order to learn its geography. One method is as good as the other at any stage, provided only that the pupil's own powers enter into the work, and that he constantly associates facts and principles. Practical instruction must involve more or less closely an adherence to the following injunctions culled from the experience of the best teachers:

1. Begin with what the pupil knows.
2. Never tell him what he can find out for himself.
3. Present but one new subject at a time.
4. Proceed from the concrete to the abstract.

5. Associate facts and principles.
6. Proceed from the simple to the complex.
7. Arrange the matter to be studied in a comprehensible form.
8. Let facts and principles be acquired by instruction and study, and fixed by repetition and drill.
9. Know thoroughly what you attempt to teach.

Pupils with regard to their aptness for receiving instruction may be divided into three classes:

1. Those desirous of learning.
2. Those indifferent to learning.
3. Those practically opposed to learning.

With the first class the teacher has merely to direct the order of study and to correct and criticise the work. With the second class, he has first to create interest in the mind of the pupil for the given study. And with the third class, he has first of all to overcome the pupil's opposition to the given subject.

The number of healthy children who take naturally to study is not great; and young pupils at times either consciously or unconsciously possess very strong opposition to learning. This may be hereditary or acquired. Hereditary opposition to learning will exist where there is no impress of culture — no tendency toward study and thought as allied with books and experiment derived from parents or ancestry. This sort of opposition may manifest itself in stolid indifference to school tasks and requirements, dullness, or in quite the reverse, quick powers of observation coupled with great uneasiness and consequent carelessness in regard to whatever is required. Acquired opposition to study we may suppose to include wrong innate tendency coupled with positively bad training; but there are undoubtedly cases where the inclination toward learning is marked, and yet who come to possess strong dislike to some special branch or study in general through the carelessness or faulty training of their superiors. A few adults still living hold that learning makes thieves and criminals, and many regard the three R's as the only necessary branches, while the number is great who have a favorite hobby that this or that study is detrimental. We have, then, the following kinds of opposition to study manifested by pupils:

Opposition to study.
- Hereditary.
  - Dullness.
  - Restlessness.
- Acquired.
  - As to all study.
  - As to special branches.

The remedy, of course, must correspond to the kind of opposition. The power of thought is fed through the senses. With pupils hereditarily dull, the powers of observation and perception must first be strengthened by well-timed drills in form, color and sound. With this class, pure object teaching is a necessity. The normal exercise of the senses is a source of pleasure toward which primarily there can be no opposition. So, whatever the age of the pupil, the best way of overcoming his dullness, is by attracting his senses; by objects, which he can both see and handle, by pictures and models which he can see, reproduce or imitate, and by sounds and tones which he can hear and imitate.

With the second class, the uneasy pupils, the great thing is to get their attention fixed upon some subject with sufficient power to keep them at work. The senses and thought of the dull pupil need to be aroused and stimulated, those of the restless pupil to be subdued and directed into definite channels. Sensation in the dull pupil is not enough to form a basis of thought, hence his senses must be exercised; while the nervous, uneasy pupil has sensation in excess and requires concentration both as an escape from frivolity and as the next step in his development.

Acquired opposition to learning as a whole or to special branches, may be obviated by direct argument. Thus, in the case of the young pupil to allay his indifference to study, it may be shown that the chief difference between a boy and a stick, is that the boy thinks and the stick does not. A stick may be shaped and dressed to represent a boy, and by mechanical devices be made to move and do various things which a boy does; but the power to think and so to act independently must ever be wanting to the stick. In this way it may be taught that the great gain of all study is to observe, to think and to act independently, and that in proportion as the pupil does this, does he rise above the stick.

A much more effective method than argument, is to so interest

the pupil that he gives up all opposition. As a summary then of means of removing opposition to study, we have the following:

- Methods of removing opposition to study.
  - Hereditary
    - Dullness. — By pure object teaching.
    - Uneasiness—By fixing the attention.
  - Acquired
    - To all study
    - To special branches
      - By direct argument.
      - By interesting the pupil

Perhaps the most important part of the instructor's work is involved in the methods he employs for creating interest in study. Five methods for this purpose are enumerated, which may be termed the *novel*, the *familiar*, the *advantageous*, the *startling*, and the *humorous:*

1. Point out clearly to the pupil what you wish him to learn. Every new thing is to some extent interesting because of its novelty, provided only that the thing to be taught is clearly discerned by the pupil.

2. The second method depends upon the principle in education that the known should precede the unknown, and consists in presenting some familiar phase of the subject. Thus in the instruction of the very young, the animal precedes the picture, and the picture should precede the word *dog*.

3. Show the advantages of understanding the subject. Not only is this a method of removing opposition to study, but also a very valuable means of creating interest in any subject. In beginning a new branch it is an excellent plan for the first lesson, to have each member of the class present as many reasons or advantages as he can for studying that subject. In his future work these reasons are likely to be recalled and to act as so many spurs to his activity.

4. Present some startling phase of the subject. How fast did you ever ride? is a question likely to awaken the pupil's thought if the movements of the earth are taken into account. So the statement, we live at the bottom of the sea, may set him thinking about the nature of this unseen ocean, the atmosphere with which we are surrounded. A boy is but a few pails of water with some ashes thrown in — the human body is an egg-shell house — boys and girls are their own fathers and mothers — a man

is a bundle of habits — one-third of our time we are cabbages — are statements likely to arouse thought in certain directions.

5. Present some humorous phase of the subject. This may be employed when all other methods fail, and if not overdone, with a strong probability of success. Every teacher will recall illustrations of this mode of interesting pupils, and will doubtless agree that if the true object is kept in view not to raise a laugh merely, but to really interest the student in his work, it is very generally successful.

For the sake of the result, the teacher's plan of action should, as a rule, be kept in the background, and, whatever the method employed, the primary purpose kept in view of arousing self-activity in the pupil. "Every person," says Gibbon, "has two educations, one which he receives from others, and one more important which he gives to himself"; and on this self-education nearly everything worth considering depends.

HYPERION.

He is not dead the halo of whose deeds
  Lights up the souls of men as sun the sky;
  Then do not think Hyperion can die.
What though the heart in common sorrow bleeds
As into gloom a form beloved recedes?
  Grief's little more than tears, a passing sigh,
  The sun sinks down to rise again on high —
On blackest gloom the morning splendor feeds.

With beams undimmed, with earthly honors blest,
  Serene as zephyrs o'er Olympus play,
Between the dark and daylight sank to rest
  Hyperion, and lo! we mourn the day.
Yet why forget the glory in the west?
  He lives right on whose radiance shines for aye!

H. C. K.

EDITORIAL.

IT was our privilege, a few weeks ago, to stand on the platform of the main High school room in Des Moines, and look into the faces of nearly four hundred bright, eager young people. What a lively, inspiriting sight it was! Frank B. Cooper, the energetic superintendent of that live young capital, and Mr. Wilcox, the successful Principal of that High school, have great reason to rejoice in the number and mental alertness of this host of pupils. Nor were all in that room. It was somewhat of a surprise to learn that over *ten per cent.* of the 4500 school children of Des Moines are in the High school. It is a splendid showing. Work like this will place Iowa, — one of the best states in the Union — well to the front. Older states may well look to their laurels.

CLEVELAND is fast becoming an educational centre. A city of 350,000, it is full of lusty life and stirring young manhood. Among the leaders of its educational forces, two men are notable. Supt. L. H. Jones, whom all his co-workers delight to hear, as much in Boston and Massachusetts as in Cleveland and Ohio; and Pres. Charles F. Thwing, the scholarly head of Adelbert College and Western Reserve University. The situation of the college, — almost under the shadow of the imposing monument to Garfield, is admirable. Around it is the growing city. Back of, and above it, the stately monument of Ohio's great son; while five miles in front rolls a mighty inland sea. The educational interests of the city and of the college are in safe hands.

PROBABLY no man is better acquainted with the educational condition of the South than Dr. A. D. Mayo of Boston. In a recent talk before the Twentieth Century Club in this city, he states that much of the present brutality in Southern life, as indicated in the frequent lynchings and other lawless acts in that section, is the work of men who were boys at the time of the Rebellion and who were thus surrounded by an atmosphere of violence and trained in a school of lawlessness. We may therefore look hopefully forward and expect to see a speedy dying out of horrors, such as that awful Texas crime which has recently so shocked the sensibilities of the civilized world. We welcome a ray of hope on this subject from any quarter.

What with the Armenian horrors, and the mob-justice of the South, our times are in danger of becoming confounded with the Middle Ages. Much responsibility for the needed reform lies with the teachers in the public schools. Public sentiment is manufactured in the schools more rapidly and more enduringly than elsewhere. The educational facilities of the South are steadily improving, and after all is said we must concede that the Southern people, *as a whole*, have shown a commendable vigor in meeting the grave problems that have confronted them since the close of the war. Twenty-five years more should bring these war-worn commonwealths up to a high state of education and civilization.

PRES. BOOKER T. WASHINGTON of Tuskegee, Ala., made an admirable address before the Schoolmasters' Club, in Boston, on Saturday, November 16. It was a refreshing sight to see this spare, medium-sized negro, a comparatively young man, born in slavery, standing in that cultured, critical presence, master of the situation. Among the two hundred men before him were many of the brightest and most scholarly educational leaders of Massachusetts. But this modest, sensible, terribly-in-earnest young orator held them as in a vice while he told of his obscure birth, abject poverty and bitter conditions as a slave-child. The story of his life, of his yearnings for an education, of his bitter struggle to get it, of his determination to uplift his race, sounded like romance in breathing ebony. How Wendell Phillips would have gloried in his triumph. For it was a triumph. Booker T. Washington is an orator. He manifests that rare power which holds and thrills and melts an audience, when the speaker loses himself in his theme. He had a purpose, a noble purpose, to make his audience understand the Southern problem in the light of present facts and conditions. He not only achieved this result, but more. Not a man left that room without realizing that this slight negro man had the clearest grasp of the situation, the completest understanding of negro character (and I think we may say of white also), and the wisest solution of the whole problem, as it fronts the negro, of any man South or North. He is a master of solid common sense. His advice to his pupils and to the colored people of the South commands the assent of all men. Negroes can rise, and only rise, in the estimation of Southern whites by becoming intelligent, by acquiring property and by making themselves of real worth to the communities in which they live. We wish that his weighty, sensible advice might reach the ear of all the colored people and be diligently followed. If they do this, they will work out their own salvation as a race.

WE are to have one more, "A Committee of the Whole on the State of Education," appointed by the National Association of Teachers; — this time a committee of twelve on the condition of rural schools. This is, beyond question, by far the most important of the three. A large majority of children in the whole Union and an overwhelming majority in half the states, depend on the country district or village public schools for all the education they will receive outside the grand university of American life. At present, probably more than three-fourths of these children leave school before the age of fourteen. There can be no question that, in the tremendous rush upon our growing centres of population since the close of the Civil War the country schools have suffered great neglect. The removal of great numbers of the most active and progressive young people from the open country to the city; the increasing demand for superior and trained teachers in the graded schools of the cities and larger towns; the general torpidity of life through vast regions of the country thus bereft of their most progressive elements; the terrible weakening of religious and moral forces through the absurd and unchristian sectarianism which "first divides and then conquers" Christianity by resolving the religious public into a group of rival organizations; — all these and other influences have fearfully widened the inevitable chasm between town and country. What wonder that every ambitious and intelligent family should now look with longing eyes to the city, where everything called education is given almost "without money and without price"; and feel that it cannot excuse itself for keeping its children in a condition really half a century behind the opportunities of the neighboring town. If our wise men can keep their minds long enough away from that maelstrom of "method," into which every new educational venture seems to be whirled down to the pit, and expand their pedagogic vision to include the vast outlying empire where the majority of American children are still dependent on the meagre country district school and a narrow circle of uplifting agencies, they will certainly deserve the thanks of the country. Just now, the State of Massachusetts, where the common school was rocked in its little Continental cradle, has made the most encouraging new departure in this direction. In its admirable new district system of supervision; the work of its group of able and indefatigable agents of the State Board of Education; the establishment of common school libraries; its numerous institutes generally held in the smaller villages and towns and its arrangement for the transportation of children to a central school building; no state to-day is offering such opportunities for good schooling to the children and youth of the rural districts.

THE WILL AND EDUCATION.

DEAR MR. EDITOR: It is interesting to note that Doctor Harris deems it worth while to urge upon our attention the old antithesis between the determinist and the indeterminist in psychology. It is long since the public has heard the din of battle so common a hundred years ago, when the philosophic knight put on his transcendental armor and rode forth to slay or be slain. Doctor Harris evidently deems it time to agitate for a reaction against the modern scientific study and application of psychology. Every great university in the land is teaching "psychology without the *Psyche*," as Mr. Thomas Davidson so wittily remarks. Professor James of Harvard, President Hall of Clark, and a host of others are trying to do for mind, what the physicist does for electricity, namely, to study its manifestations without metaphysical presuppositions as to its entity.

The Herbartians, it appears, are to receive the first onslaught of this reactionary movement. They are the stump about which the devil of scientific study of mind is to be whipped.

The unfortunate result of insisting upon this bald antithesis between transcendental will and mechanical determinism in the name of pure reason and religion, is that while the advocate of "free will" insists that the other view destroys responsibility, and with this the dignity of manhood and the sacredness of religion, the opponent may retort that he who declares with Doctor Harris that "the will . . . can originate actions and can modify its environment independently of any stream of causation passing through it" (November number of EDUCATION, p. 180), must at the same time implicitly deny the efficacy of education.

Now, I submit that any controversy that compels us to choose between repudiating moral responsibility, on the one hand, and denying the efficacy of education, on the other, is alike unnecessary and unfortunate.

It is hardly worth while to use up the space of this journal in demonstrating at length the force of public opinion in determining the volitions of men along political, or social, or economic, or religious lines. The influence of social and economic conditions upon conduct is easily traced and tabulated by the statistician. "Quetelet," says Wundt, "showed that the number of marriages every year is more regular even than the number of deaths, to which, of course, — except in cases of suicide —

the will has nothing to say. The same statistician proved also that so long as the course of justice, the prosecution and punishment of crime, remained unaltered in any nation, the crimes committed show a marvellous constancy in number, character and distribution with regard to age and sex." These facts go to show that whether conditions *must* influence volition or not, they in fact *do* influence it when large numbers are concerned. To maintain in all seriousness that education influences individual volitions, and effects great results in the formation of character, seems like arguing that food nourishes the body. Sometimes it does not, but in normal cases it does.

Again, this one-sided conception of will as a free cause, ignores heredity as a factor in the mental life; it forgets that we have many institutions for idiots and feeble-minded children. If there is free will in such creatures it is manifestly impotent. Like that in infants, it amounts to nothing. But perhaps the most serious defect of the Kantian antithesis between the intelligible and the empirical character, is that the idea of spiritual evolution as affecting the will is totally overlooked. To grant evolution to matter, plants and the bodies of animals and to deny it to spirit, is to progress along one line and to remain turned to stone along a much more important one. Let us freely grant the possibility of psychical as well as natural causality. We see stages in the results of natural causality, as in geology, and we explain them by a beautiful doctrine of evolution; we no longer think of the strata of the earth as special creations. We see corresponding stages in spiritual causality, one of which is, let us say, "free will." Shall we now maintain that this is the result, not of growth, development, evolution, but is an original creation? In such a case, we have not an evolving, but an evolved plan. The evolution was in the ideas of the creator, which he projected into existence in a static form, like the stone steps of a mansion. Such a conception is as hard to maintain for mind and will as it now is to uphold the old literal interpretation of Genesis. It throws no interpreting light upon history, criminology or education. All of these belong in a system that has no inherent connection with the formation of character.

A truer, or, at least, a more useful conception of will is that it, too, falls under the rule of evolution. An acorn is a germ having an unfolding power of its own, and awaiting only the proper conditions of soil, warmth and moisture, to grow and become all that its nature involves in embryo. The will is likewise a germ at birth, and is subject, like the acorn, to the conditions of its environment, one of the most important of which is education. Transcendental freedom is in this case, metaphysical. It is not moral, for it has no *content*. It is at best

only a possibility, a germ, a potentiality, dependent upon its environment for the degree and perfection of its development. A single name for the sum of its environment is civilization. It is to civilization, therefore, that we must look for guidance as to the matter and method of our efforts to influence the character of pupils.

Doctor Harris's anxiety about the Herbartian pedagogy is seemingly founded upon a needless antithesis between intelligible and concrete mind, or else upon a mistaken view of the necessary psychological basis of Herbart's educational theories. The ablest advocates of Herbart's educational system in Germany affirm that all its essential positions are as defensible from the Hegelian as from the Herbartian standpoint. Certainly, Doctor Harris is our ablest advocate of the most important things in Herbart: — civilization as preferable to mental gymnastics in determining the choice and arrangement of studies; apperception as the true gateway to the mind and heart of the child; scientific method in imparting, generalizing and applying knowledge. It may be predicted that the time will come when he will see safety and not danger in Herbart's doctrine of interest.

Very truly yours,

CHARLES DEGARMO.

President Swarthmore College, Nov. 6, 1895.

A CORRECTION.

In a brief article which appeared in the October EDUCATION, I made two statements which I have since found to be inaccurate. In the first, I said that the system of separate schools was the "rule in the other provinces" besides Manitoba. It appears that they are confined to Quebec and Ontario, and do not exist except as private schools in the Maritime Provinces and British Columbia.

I also said that "the public school in Canada is not yet anywhere a free public school." I was writing from the province of Quebec, where tuition is regularly charged. My information about the other provinces was derived from a clergyman who had charge of a parish school. There were no books at hand by which to verify or disprove his opinion. Since I returned home I have found that the public schools of the Maritime Provinces are entirely free; that most such schools in Ontario — possibly all — are free, and that the same is probably the case in Manitoba and British Columbia, though the evidence at hand is not altogether decisive. I regret that these errors were made.

RAY GREENE HULING.

PSYCHOLOGICAL METHODS IN LANGUAGE TEACHING.

ON Saturday, October 12, a lecture was given in the hall of the English High School, Boston, by Mons. Victor Bétis, founder of the Central School of Foreign Tongues, London, England, on "The Gouin Series Method of Teaching Languages, Perfected and Adapted to School Practice." A letter of invitation had been sent by Supt. Edwin P. Seaver to the principals of high and grammar schools; about one hundred and fifty teachers were present.

The lecturer said that Monsieur Gouin's ideas, though not covering the whole field of language teaching and very often one-sided, deserve from all educators careful consideration; if properly applied and completed they can lead to remarkable results. Monsieur Bétis had, during several years, the advantage of studying the "Series Method" with Monsieur Gouin himself; he has, therefore, better than anybody else, been able to grasp the spirit of the method and to see in it the points of real value. He claims for Monsieur Gouin the honor of having been the first to point out the advantages of applying psychological principles to the teaching of languages. The lecturer generalizing this idea has studied from the same point of view the different problems of language teaching, the works of great philosophers, like Taine and Spencer, and has completed the "Series Method" and made it applicable even in large classes, to the thorough teaching of a language by important additions to which he has given the name of *Psychological Methods*. During the lecture he pointed out the difference between the "Natural Method" and the "Psychological Methods": the one observing superficially Nature to act in the same way as she does; the others studying Nature carefully, interpreting her laws, and applying them in school with the modifications needed by the organization of the human mind.

The lecturer illustrated briefly the different characteristics of the "*Series Method*" and of the "*Psychological Methods.*"

The "*Series Method*" (invented by M. Gouin) is based on the principles that the actions of every-day life must be associated with the foreign spoken expressions (and not as with the present systems, a foreign printed word associated with the English printed word); that these actions must be linked together by a natural sequence, the order of succession in time; that the unit of language is the sentence and not the word; that the principal word in the sentence, from the point

of view of the meaning as well as from the grammatical point of view, is the *verb;* that a language is composed of two languages interwoven, viz: the objective language and the subjective language; and finally that reading and writing must come after the expressions have been learnt orally. (See "The Art of Teaching and Studying Languages," by F. Gouin, translated by Victor Bétis and Howard Swan.)

The "*Psychological Methods*" comprise the following:

METHOD OF MENTAL EVOCATION. This is the art of presenting to the pupil the facts studied and of keeping them always present to his mind during the whole lesson; it is the utilization in the art of teaching of an enormous power up to the present time almost entirely neglected: the power of *visualizing* and *representing*. This method has been created and developed by Monsieur Bétis after a close study of the great French philosopher, H. Taine, and other psychologists, and after personal experiments; it prevents the knowledge from becoming mere book learning, develops the observing, imaginative and inventive faculties of the pupil, and at the same time greatly increases the power and extent of the natural memory. This method is also applied to the teaching of literary extracts.

THE PSYCHOLOGICAL DICTIONARY OF THE FACTS OF LIFE. In it are found classified all the customary expressions for all the actions performed by living beings, and for all the situations and surroundings in which they are placed. It constitutes the putting into practice of the "Series" theory.

THE SYMBOLICAL GRAMMAR. Hitherto the words and endings in grammar have been taken as the material to be organized. In the Symbolical Grammar are classified the different conceptions of the mind giving rise to grammatical forms and constructions, and symbolical tables or charts are used in which the arrangement, position and nature of the symbols chosen indicate at a glance the signification of the forms, the rule of their use and the inner reason of the rule.

THE GRAMMATICAL SYNTHESIS shows the connection of the different rules of grammar and enables the student to construct correctly all sentences and to join them together.

LITERARY METHODS (without translation). The Method of *Mental Evocation* applied to the teaching of Literary Extracts proceeds "from the idea to the form." The teacher, using nothing but the foreign language, makes the pupil think and feel as the author himself has done, presenting all the facts and ideas, analyzing them, pointing out the part they play in the whole, etc., and at the same time working out the literary expressions, so that the pupil assimilates both the spirit and the text of the work.

THE METHOD OF RE-INVENTION leads the pupil to original composition in the language studied. Only the fundamental ideas of a literary extract are given; the pupil, under the direction of the teacher, has to discover the facts, ideas, details and expressions chosen by the author and determined by the laws of Literary Composition. This method combines Conversation, Composition, Grammar, Criticism and Discussion of ideas and expressions.

After this exposition the lecturer added that the value of his Psychological Methods had been *proved* by the now well-known experiment in which the children of Mr. W. T. Stead, editor of the *Review of Reviews*, could at the end of six months' instruction pass a very severe and practical examination, composed of twenty-four tests, showing that the pupils after 240 hours' teaching could understand, speak, read, write and translate.

Monsieur Bétis has introduced the employment of these methods in England by establishing language training courses attended by more than 300 teachers, by giving pedagogical and literary lectures, and by organizing the language instruction in a large number of schools. His intention is to establish in Boston a school like the one in London, where languages would be studied according to the Psychological Methods, and where teachers would be trained.

This interesting lecture ended by a specimen lesson in French, given to the persons present who did not know that language; it was lively and very successful. V. B.

FOREIGN NOTES.

ENGLAND.

The event in the educational world is the report of the Royal Commission on Secondary Education. The work of the Commission has been accomplished with wonderful dispatch. It was appointed in March, 1894, has held one hundred sittings and examined eighty-five witnesses. The report just issued to the public was presented to the government in August last. The entire work will consist eventually of nine volumes, of which three only are as yet in print. These comprise (1) a historical sketch of secondary education in England from 1867, the point where the report of the Commission of 1864 left the subject, to the present time. (2) The review of the evidence and the recommendations of the Commissioners. Time fails us at this moment to do more than glance at points of peculiar interest to American readers. The recommendation that a central educational authority be constituted presided over by a Minister responsible to Parliament was generally expected. For the assistance of the Minister in professional matters, a council is recommended, to be composed partly by appointment and partly by election, resembling in this particular and in its advisory functions the Superior Council of Public Instruction in France. It need hardly be said that elementary education as well as secondary would be included in the province of the Minister.

On the vexed question of local management the Commission took a

very conservative position, advising the continuance of existing authorities. This virtually leaves the control of public funds intended for the promotion of secondary education to County Councils and Borough Councils instead of extending the province of the School Boards as many persons desired. A scheme for the registration of teachers is advocated applicable alike to all teachers without respect to the grade or class of schools (i. e., public or private) in which they are employed. The professional training of secondary teachers is recommended, but no specific provision is made for the work.

While the inspection of secondary schools is to be provided for by local authorities the central authority makes itself responsible for the efficiency of the service. Directions as to sanitary inspection are explicit, and this part of the service must be applied to private as well as to endowed and State aided schools. In the sections relating to the classification of schools, the following clause occurs:

"The evidence in favor of educating boys and girls together from America, Scotland and England, in the comparatively few cases where it has been tried there, is overpowering, and mixed schools, or 'dual' schools," i. e., schools with two distinct departments, but a common staff, "are strongly recommended."

One great purpose in view in the appointment of the Commission, i. e., the extension of the secondary school provision of the country to meet the wants of the middle and poorer classes, is only touched upon indirectly. Suggestions are given for the guidance of local authorities in this respect. It is distinctly stated that free secondary education is not recommended, nor even contemplated as a distant possibility; for this reason, however, it is urged that it is necessary to set up an educational ladder by means of scholarships and exhibitions. Scholarships are of four kinds, any or all of which may be founded at the discretion of the local authorities: "1. For children educated in the 'standards' (required grades) of public elementary schools. 2. For children in a higher grade elementary school, or a preparatory secondary school. 3. For all children residing or educated within the area, without respect of school. 4. Open to all the world, and subject only to suitable conditions as to age and the means of the parent." I shall return to the subject in future numbers of EDUCATION.

RELIGIOUS INSTRUCTION IN BOARD SCHOOLS.

The question of religious instruction in the Board schools of London, which it was thought received its quietus at the school Board election in December last, is again to the front. The advocates of sectarian instruction, chief of whom are Mr. Athelstan Riley and the Rev. J. Coxhead, have evidently derived courage from the cabinet crisis of August last which brought the Conservatives again into power and

revived hopes of legislation distinctly favorable to denominational schools and teachings at public expense. The immediate question before the London Board grew out of the "test circular" as it is now known. This document addressed to teachers by the Board that expired in the December election, explained that the religious instruction allowed in Board schools should be held to include "a belief in God the Father as our Creator, God the Son as our Redeemer, and God the Holy Ghost as our Sanctifier." It was, however, stated that teachers who could not give the instruction in that sense might seek relief from the obligation without prejudice of their positions. At the time the circular was issued (March, 1894), there were 8,902 teachers under the Board giving religious instruction. Of these, 5,772 accepted the circular without protest, six applied individually for relief, and 3,127 applied collectively through the "Metropolitan Board Teachers Association." The appeal in this form was disregarded by the Board, but a circular letter was addressed to the signers, asking if they personally desired to be relieved from giving the religious instruction in the sense explained in the circular. To this inquiry eight responded affirmatively, 230 negatively, while 2,886 took no notice of the request. These silent teachers have given occasion for the renewal of hostilities on the part of Mr. Riley and extremists of his type. Mr. Riley has opposed the promotion of one teacher in this group, and has publicly stated of the entire number that they have adopted a course of action which necessitates "the greatest vigilance over them and their promotion on the part of those members of the Board who are pledged to do their utmost to protect the little children of Christian parents in our schools from receiving their Bible instruction at the hands of those who do not believe the cardinal doctrines of the Christian Faith." This is very naturally regarded by the judicious, fair-minded members of the Board as a resort to threats and menaces, and they have protested against Mr. Riley's continuance upon a committee charged with the management of the teaching staff.

While the war is waxing in the London Board, the question as to the relations of the government to religious instruction in the Board schools has been reopened for the country at large. Representatives of the Church of England, which is responsible for the education of about forty-five per cent. of the school children, are urgent in their appeals for additional help from public funds, the non-conformists are equally determined in their opposition. Innumerable compromises are proposed; among others, one by the Rev. Hugh Price Hughes, which has created profound excitement among the Methodists. This eminent clergyman proposes to make the "Apostles' Creed" the common ground of agreement for all religious sects, and on this basis to admit denominational schools to a share in the local taxes. The Rev. Dr. Parker, in a letter of protest, expresses the general conviction of the Methodists, namely, that the State should concern itself solely with secular subjects and leave religious instruction to the family and the church.

FRANCE.

The Centenary of the Superior Normal school at Paris, which was celebrated in April last, was not less brilliant than the ceremonies that

attended the inauguration of the new Sorbonne in 1889. A notable feature of the exercises was the honor paid to Pasteur, whose relation to this renowned institution, first as student, and subsequently as director of the natural science section, was dwelt upon with intense pride. This was destined to be the last public ovation in which the great investigator should bear a part. He died in October, having very nearly completed his seventy-third year. He was accorded a national funeral, and foreign countries through their ambassadors, joined with France in doing homage to his memory. Conspicuous beside the floral offerings that adorned the catafalque were the jewelled decorations which the illustrious *savant* had received from the various countries of Europe.

On the twenty-fifth of October was celebrated the centenary of the Institute of France. This society was created in 1795 by an order of the National Convention. Three sections were recognized from the outset, i. e., Mathematics and physical sciences (sixty members); Moral and political sciences (thirty-six members); Literature and fine arts (forty-eight members).

In 1803, by an order of the consuls, the Institute was reorganized in four sections, namely, Mathematics and physics; French language and literature; history and ancient literature; fine arts. The organization of 1803 ended with the fall of Napoleon. Finally the Institute was revived by Louis XVIII. (March 21, 1816), and the old name, "academy" applied to the four sections. A fifth section, i. e., "Academy of moral and political sciences," was created in 1832, by order of Louis-Philippe. The event of the recent celebration was the address by Jules Simon, which is given in full in *Nature*, of October 31.

JAPAN.

From the report of the Minister of Education for 1893 (sixth year of Meiji), it appears that the total expenditure for education during the year was 1,335,852 yen (about $1,041,964). The number of children of school age was 7,263,202, of whom 4,265,590, or fifty-eight per cent., were following the prescribed course of instruction. The percentage of boys in attendance was 74; of girls, 40.59, the former showing an increase over the previous year of 3.10, the latter of 4.13 per cent. Kindergartens are reported to the number of 186, of which, one belonged to the Government, 137 were public, and 48 private establishments. The number of conductors was 404; that of the children taught, 13,268; an increase on the preceding year of forty seven in the former, and of 1,257 in the latter. Every endeavor is made to imbue the children with the spirit of patriotism. All national festivals including the Emperor's birthday, are celebrated in an imposing manner. The importance of moral instruction is emphasized in the report. The subject is not, however, to be imparted by set lessons, but to form as it were, the atmosphere of the school permeating all exercises. This purpose is kept in view in the training of teachers who are continually reminded that the moral outcome of school instruction will depend upon their own characters and example. The report shows that the Imperial University is flourishing. Out of 156 graduates for the year under review, fifty-one were appointed administrative or judicial officials, ten as specialists or doctors in the various Government departments, six-

teen instructors in the Imperial University and other Government schools, eight instructors or doctors in public and private schools or hospitals in various localities, twenty were admitted to the University Hall, one entered the post-graduate course in the College of Literature, six have joined the army as volunteers for one year, two are engaged in professional work as lawyers, ten have devoted themselves to practical business, and three are dead. A. T. S.

AMONG THE BOOKS.

To accommodate readers who may wish it, the publishers of EDUCATION will send, post paid on the receipt of price, any book reviewed in these columns.

THE PSYCHOLOGY OF NUMBER and Its Applications to Methods of Teaching Arithmetic, by James A. McClellan and John Dewey, is Volume 33 of D. Appleton & Company's International Education Series. The authors have treated the subject in a most comprehensive manner and present it in a shape that will make it acceptable to all teachers, No subject in the curriculum has more time given to it than has arithmetic and save in special cases no subject produces such unsatisfactory and barren results. The cause for the dissatisfaction among teachers anent the teaching of arithmetic is to be found in the fact that the psychology of the subject is not understood by them, and consequently the methods employed are wrong. This book aims to set forth the true theory of number and the correct methods of teaching it. Every branch of the subject is carefully considered and the exposition of the whole is lucid and thorough. It is a book for all teachers to read and study and when its contents are mastered there will be more intelligent work in arithmetic.

The International Series, published by D. Appleton & Company, New York, grows apace and each new addition gives power and value to this up-to-date library of education. Every branch of the science and art of education receives consideration by the editor of the series, Commissioner Harris, and so admirably prepared are the volumes that the veriest tyro in the profession can study them and gain profit thereby. The subject of the Kindergarten has in the late numbers received attention, Number 30 being PEDAGOGICS OF THE KINDERGARTEN, by Froebel, translated by Josephine Jarvis. The sub-title of the book is "Froebel's Ideas Concerning the Play and Playthings of the Child." In these essays we have the real essence of the spirit of the kindergarten ; a practical elucidation of the real theory of Froebel. The chief value of the book is to be found in the thorough discussion of the first five gifts, and to kindergartners this will prove of great service. Parents, primary teachers, kindergartners and all interested in the new education will find this book to be of inestimable value. Number 31 of this series is THE MOTTOES AND COMMENTARIES OF FROEBEL'S MOTHER PLAY, by Henrietta R. Eliot aud Susan E. Blow. This collection of the songs and games for the mother with her child must be regarded as the key to the philosophy of the kindergarten and as the manual of its practice. The rendering of the quaint songs has been faithfully done and the prose commentaries are rich with information and explanation. The book is profusely illustrated. All kindergartners will need this volume ; it will inspire to brighter and better work. Number 32, THE SONGS AND MUSIC OF FROEBEL'S MOTHER PLAY, is a companion volume to the preceding and serves to further deepen and illustrate the meaning of the games in the kindergarten. These

three books are among the best in this series and deserve to be read and studied by every parent, primary teacher and kindergartner. Add to these three books, volume 5 of this series and the kindergartner is completely equipped for her sublime work.

THE BOOK OF THE FAIR, an historical and descriptive presentation of the world's science, art and industry, as viewed through the Columbian Exposition at Chicago in 1893, is a graphic portrayal of "the display made by the congress of nations of human achievement in material form." This book is an epitome of advancing civilization. The right man undertook it. Mr. H. H. Bancroft with his wealth and reputation for excellent book-making which has been a constant surprise and delight ever since his noble volumes on early California, Mexico, and the like, began to appear, was just the man to undertake and successfully execute this colossal, original and beautiful work. The Book of the Fair is a full and exhaustive treatment of this great subject. It gives us a clean-cut history of all World's Fairs down to the Exposition. Fitting note is then taken of the men who originated this stupendous undertaking and carried out their ideas on such a magnificent scale. We get a clear idea of the growth of Chicago from a frontier fort and then the village of 1835, in the bog and mud and malaria of the lake outlet, on and up to the superb, regal city of 1,500,000 inhabitants. We see the grounds prepared, the immense buildings erected, the vast quantity and variety of exhibits collected, brought and placed in position; the multitude of state buildings and those of foreign nations pass before us. Nothing is forgotten in text or picture. All that the four quarters of the earth yields and the sea and the bowels of the earth are collected and written up and pictured out as we saw them at the Exposition. All that agriculture, commerce, art, science and invention have to offer was there, and at its best. And in the Book of the Fair it all passes, like a vast panorama, before our sight again. Here were gathered (especially in the Midway Plaisance) representatives of all races, nations and tribes of the earth, all of which is faithfully depicted in this book to the eye and to the mind. The ethnologist never had such a chance to study primitive man, and man as he is in every condition of savagery and civilization to-day. The inventor stood amazed at the multiplicity of useful, helpful, ornamental inventions to save labor and minister to the wants and welfare of the whole brotherhood of man. The warrior stood aghast at what is now possible in the way of destroying life and property on land or sea. The marvels of electricity were gloriously displayed. And this revolutionizing agency is only beginning its work. The miner, the farmer, the artisan, the sailor, the horticulturist, the railroad man, men in all walks of life, here received a new and enlarged conception of the dignity of their calling and of all good work. The treasures of art, of all beautiful things in gold and silver and precious stones, are here freely displayed and explained. The advances of education, of book-making, of printing newspapers, is fully and tellingly set forth. The great Exposition widened men's vision and opened new avenues of thought to all who were privileged to attend it. For all such these costly volumes will recall a thousand pleasant memories and wonderfully enrich the recollection. And, to the much larger number who missed that rich experience, these volumes will prove a storehouse of instruction and delight. The text is clear, concise and instructive. The illustrations are exceedingly numerous and the best possible. Paper, print and binding are such as befit a monumental and enduring work. Mr. Bancroft has spared no pains to make this book worthy of its great theme. It is an eminent success, and he deserves the hearty thanks of all his countrymen. Chicago and San Francisco: The Bancroft Co. Price, in cloth, (two large volumes, 1000 pages), $30.00.

L. Prang & Company, of Boston, with their lovely Christmas cards and booklets remind us that the joyous festival is approaching. How much this house does to add joy and good cheer to American homes! What a variety of pretty calendars! We have examined with delight the Imperial Chrysanthemum, Lily of the Valley, A Watteau, and a "Happy Childhood" calendars. The last is very sweet. Then there is a fine one, A Calendar of British Authors,— Shakespeare, Tennyson, Browning, Wordsworth, Burns and Byron. Two choice little books, full of sweet verse and dainty, appropriate illustrations, are A Handful of June Pansies, and Roses, Roses All The Way, both by Bessie Gray. "Violet Time" is a charming booklet with bunches of violets in every shape and choice poetic selections. The cards, too, like the calendars and booklets, are fresh and sweet and true to American life. Among flowers, sweet-peas, pansies and violets abound. Then there are sweet child faces, and an orange branch with flowers and fruit. As Christmas approaches a great multitude of hearts are gladdened by what this firm is doing. We wish them joy.

The New Webster Dictionary and Complete Vest Pocket Library is a very remarkable little book. By a great variety of ingenious devices in figures and letters five books are here condensed into one little handy volume. Here is a dictionary of 45,800 words, an excellent gazetteer of the world, a parliamentary manual, an expert calculator, and a literary guide. Definitions and pronunciations are given clearly and fully. By an ingenious use of letters one page adds 25,300 words. It is called the "Columbian Word-Builder" and is an admirable device. As you turn the pages of this booklet the wonder grows that such a vast amount of valuable matter can be packed in such small compass and be so carefully and thoroughly systematized. It is the most useful and serviceable little book we have ever seen. Everybody should have it and use it constantly. Too much cannot be said in its praise. Examine it and see. E. E. Miles, Publisher, South Lancaster, Mass. Price, 25 cents, 50 cents, and 60 cents, according to binding.

Turning Points in Successful Careers, by William M. Thayer, is a good and interesting book for boys. Teachers and pastors also will find in it abundant material for helpful illustration. It will find its way into school libraries for the purposes of supplementary reading. At the same time we wish the author had gone a little deeper in his analysis of character and by showing some of the temptations and weaknesses of his heroes, redeemed the book from just a suspicion of Sunday School "over-goodness." T. Y. Crowell: New York and Boston.

Rambles in Japan, by H. B. Tristram, D. D., LL. D., F. R. S., is a fascinating book on a subject of present popular interest. The sudden emergence of a nation into a strong and mature manhood is an engaging spectacle, and the eyes of the world have been turned for a year past with more than curiosity,— even with admiration — toward "the land of the rising sun." Doctor Tristram has traversed the land with the thoughtfulness of the trained, philosophic observer, and has recorded what he has seen in choice and discriminating language. His book is especially rich in its studies of the work of Christian missions in contact with the results of Buddhism in Japan and careful comparisons are made with the practical workings of Buddhism in China and Ceylon. The artist and the publisher have co-operated in producing an attractive volume, with forty-five illustrations, an index, and an up-to-date map. New York: Fleming H. Revell Company. $2.00.

SHAKESPEARE'S WORKS, The New Stratford Edition, by J. Payne Collier, F. S. A., contains all of Shakespeare's writings, in eight volumes, well bound in cloth, with large, clear print, at $10.00. Other bindings, $14.00, $18.00, and $23.00. Special and valuable features of this edition are the critical notes and comments by the editor, and a comprehensive life of the poet, in which some new and interesting facts are introduced. This is a thoroughly practical edition of Shakespeare by a world renowned critic, and will furnish the student and general reader with the best results of modern Shakespearian research. For further particulars see advertising page xxx. Philadelphia, Pa.: Keystone Publishing Company.

THE SECOND JUNGLE BOOK, by Rudyard Kipling, has the same wierd, fascinating interest as the first, and holds the reader's attention to the end. This will always be a classic in juvenile literature and the strong originality and vivid imaginativeness of the author does much to redeem the age from the charge of literary barrenness. The book ends in an announcement that will bring regret to every reader, "And this is the last of the Mowgli Stories. New York: The Century Company.

A MANUAL OF THE ANATOMY OF VERTEBRATED ANIMALS, by Thomas H. Huxley, LL. D., F. R. S. A companion volume to the same author's Manual of the Anatomy of Invertebrated Animals, published in 1892. New York: D. Appleton and Company. Price of each volume, $2.50. It is a monumental work that is brought before the reader in these two volumes,—a fitting memorial of the pre-eminently useful life of the late highly endowed and greatly lamented Professor Huxley. To bring together the multitudinous discoveries and conclusions of a great body of patient investigators in an obscure field of scientific research and to add a mass of original data gathered by years of painstaking exploration and study is a task herculean in its proportions and requiring talents of the highest order. But this has been most successfully accomplished by Professor Huxley, and in giving to the world these two volumes, had he never done anything else that was noteworthy, he would have put the race under lasting obligations and lifted his name high in the list of eminent benefactors. The entire field of the structure of animals is covered in these two treatises in a comprehensive and lucid way. All important facts established by recent discovery are set forth and given their proper place in the orderly development of the subject. The fact that studies along these lines must precede the study of many of the other arts and sciences, such as painting, medicine, etc., makes these books the more important. The publishers have done their part well in producing two handsome, durable volumes. They will find their way into all class rooms and libraries where nature and art are considered, and will speak authoritatively for a long time to come.

THE HORSE FAIR, by James Baldwin, is a work of over 400 pages, profusely illustrated, and elegantly bound. It is a story of the horse and is told in a manner to charm both old and young. The author conceived the idea of holding a horse fair in the magic land of Morgan the Fay, at which every noted horse known to legend or history should be present and go through his paces. A little American boy is taken to the fair under the tutelage of Cheiron. And what a vast list of entries is at this fair,—Pegasus, Mazeppa, Bucephalus, Bayard, Rozinante, Ichabod's Gunpowder, and Tam O'Shanter's Maggie, and the chargers of Cæsar, Napoleon, Washington, Grant, Sheridan, and Lee. It is an exquisite book, full of tales of brave adventure and stirring battle pictures, and appeals to all who love horses, and to wide-awake boys in general. New York: The Century Co.

HERO TALES FROM AMERICAN HISTORY, by Henry Cabot Lodge and Theodore Roosevelt, consists of twenty-six stories in which is told in simple fashion the deeds of some Americans who showed that they knew how to live and how to die. The first story is one of Washington, the last one of Lincoln. Each tale has some lesson to inculcate, and this lesson is made impressive by some stirring deed. The authors wrote with hearts full of their subject and a strong spirit of patriotism pervades the entire book. For the boys of to-day this book is an inspiration and it will thrill the heart of every reader. It is admirably adapted for supplementary reading in the schools ; it is the best book of its kind for this purpose. New York : The Century Co.

LATIN GRAMMAR IN A NUTSHELL is a unique device in card board on which is given in complete and systematic form the essentials of the Latin grammar. The arrangement is simplicity itself and everything needed can be found at a glance. It will save many hours of labor to the studeut ; it should be his *vade mecum* in the recitation room. Compiled and sold by Supt. G. W. Lewis, Lebanon, Ohio. Price, 20 cents.

The Academy Series of English Classics has been enriched by the addition of Shakespeare's JULIUS CÆSAR, edited, with introduction and notes, by Samuel Thurber. Doctor Thurber's notes are quite unlike those of any other editor's and serve to throw the burden of the work upon the student rather than to supply him with the information which he should secure for himself. The notes thus stimulate to investigation and provoke thought. Boston : Allyn & Bacon.

Byron S. Hurlbut, of Harvard, has edited with an introduction and notes, Defoe's History of the GREAT PLAGUE IN LONDON. The editor's work has been done with great care, and much erudition is shown in the notes and introduction. Boston : Ginn & Co.

ELECTRICITY FOR EVERYBODY ; Its Nature and Uses Explained, by Philip Atkinson, is a work designed to meet the public demand for information in regard to the nature and uses of electricity, and the various kinds of apparatus by which it is generated and employed. While the nature of the subject requires that technical terms be used, still the author has employed these with so much skill that the average reader can peruse the book with satisfaction and ease. Every form of electricity is explained and the various uses to which it is put are carefully treated of. Upwards of 100 illustrations embellish the book. It is one of the most timely of books as it is one of the most needful, and it merits wide reading. Boys will find it a fascinating and instructive hand book. New York : The Century Co.

J. Selwin Tait & Sons, the well known publishers, have issued a unique and highly interesting catalogue of their various publications. With the title is given an accurate description of each book, together with extracts from the opinions of the best press critics of the country. Readers can tell at a glance whether or not it is the volume they want. Other publishers would do well to adopt this admirable plan. It is unnecessary to state that the books published by Tait & Sons are among the freshest and brightest in the trade. The catalogue may be had by addressing the firm at 65 Fifth avenue, New York.

GRADUATE COURSES, is a handbook for graduate students, and contains lists of advanced courses announced by twenty-two colleges or universities of the United States for the year 1895-6. New York : Macmillan & Co.

A royal book to read at Christmas, or any other time, is THE DAYS OF AULD LANG SYNE, by Ian Maclaren. We know of no author, at present, who gets such a grip upon the heart-strings as this gifted Scotchman. He touches the fountain of tears again and again. He is, also, a master of grim Scotch humor. Those who have read "Beside the Bonny Brier Bush," will know just what to look for in these added tales; brief, but full of life. Such familiar figures as Dr. "Weelum" Maclure, "Jamie" Soutar, "Marget" Howe, Drumsheugh (whose love for her is so great, tender and lasting), Hillocks, Elspeth Macfadyen, Posty, and other worthies of Drumtochty pass before us. How fresh and strong and true and honest their neighborly feeling, their pride in each other's attainments and their love. This is a rare book; a book which gives us new faith in human nature. New York: Dodd, Mead & Co. Price, $1.25.

Lee & Shepard, Boston, have brought out quite a list of delightful books for the holiday season. POEMS OF THE FARM, collected and illustrated by Alfred R. Eastman, is a handsome, finely illustrated, gilt edged volume. It pictures forth to eye and ear the charms of rural life. It will awaken tender memories in many hearts. Certainly the love of Nature is on the increase. Mr. Eastman has shown excellent judgment in the selection of these poems and in subjects for illustration, which add force and beauty to the verse. Price, boxed, $2.50. LITTLE DAUGHTER, by Grace Le Baron, is a lovely story for a young girl. It shows what a good girl can do to make the world better. It follows "Little Miss Faith" in the Hazlewood Stories. YOUNG MASTER KIRKE, is a breezy story of the Rowe family, now on the Pacific coast. Kirke is an impetuous fellow and Weezy full of fun. Penn Shirley, the author, is a sister of and has much of the ability of Sophie May. HALF ROUND THE WORLD, is an entertaining story by Oliver Optic. The hero of the story, Louis Belgrave, a young millionaire, purchases a steamer which he names "The Guardian Mother," and in it he and his guests sail from the Nickobar Islands to Rangoon, down the coast of Burma and the Malay Peninsula, to the islands of Sumatra, Java, and Borneo. While conveying much useful knowledge, Mr. Adams never loses sight of the fact that the young people expect from him an interesting story, and one full of exciting incident. AUNT BILLY is a little book of delightful sketches, full of the humor and pathos of New England country life. Sophie May knows child life and in, KYZIE DUNLEE—A GOLDEN GIRL, presents some charming portraits of lovely childhood. She is as interesting and instructive as she is entertaining. Samuel Adams Drake has rare power in putting things, and in the CAMPAIGN OF TRENTON, he portrays that dark period of the Revolution with great clearness and power. THE BOY OFFICERS OF 1812 is a thrilling story by Everett T. Tomlinson. The Field and Spicer boys go out on scouting expeditions and get into some battles. This book stirs the blood. A LIEUTENANT AT EIGHTEEN is a war story of great power by Oliver Optic. Deck Lyon, our young hero, is a mettlesome boy and a good and skillful fighter. He has many encounters with guerillas and confederate cavalry in which he displays good sense and soldiery qualities. The exact marksmanship of Kentucky riflemen is finely brought out. BACK COUNTRY POEMS, by Sam Walter Foss, with a dozen well drawn illustrations by Bridgman, is a book of more than common interest. Some of them are in Yankee dialect, others are in the purest of English. These poems abound in touches of nature of the most genuine quality. Some of them are wonderfully refreshing. Bobolink Philosophy is capital. Other pieces are cute and instantly captivate the imagination. It is a refreshing volume. Price, $1.50.

A Boy of the First Empire, by Elbridge S. Brooks, is a delightful book for children who share in the general revival of interest in the career of Napoleon. Mr. Brooks has made the great emperor the central figure in his story. The actual hero of this book is a brave French lad who warns Napoleon of a desperate plot against his person. In return for his loyalty he is taken into the service of the emperor as a page. He becomes a special favorite of Napoleon, and is employed on many errands of delicacy and secrecy. He bears to the divorced Josephine the news of the birth of the King of Rome, and carries to Marie Louise Napoleon's last message before the retreat to Elba. As an aide, he is near to Napoleon's person in the latter battles of the emperor. The interest is heightened by the stately figures that move through these pages. There is the brilliance and glitter of court, and the pomp and excitement of war. Philip, the page, is a very real boy, and has many quips and jokes. Boys will enjoy this book. New York : Century Co. Price, $1.50.

Wayne and His Friends is a book by J. Selwin Tait, to thrill and delight boys. Mr. Tait loves boys and he knows just how to tell stories to catch and hold their attention. Wayne's adventures with Uriam are "perfectly wonderful." Hugo's adventures with The Magic Jewel are passing belief. And there are seven other stories to make a boy catch his breath. Some will prefer Hero Johnnie, and some How Jack finds the Ogre and others the Little Moss Rose. New York : J. Selwin Tait & Sons.

Jack Ballister's Fortunes, by Howard Pyle, is a stirring story of early colonial life, full of exciting incidents, brave deeds, and hairbreadth escapes. Jack is an English lad who is kidnapped and sent to Virginia, and eventually falls into the hands of pirates from whom he afterwards escapes. The story moves at a rapid pace ; there is not a dull page in the book, and the boy that can put it aside after once beginning it is a pretty tame sort of a boy. He will be a better boy after reading the book, if we mistake not the purpose of the author and the book. It is a good, healthy, wholesome story and merits wide reading. Mr. Pyle's pictures add not a little to the worth of the book. New York : The Century Co.

The new psychology is beginning to demonstrate its worth and practical value. The laboratory has held many secrets which the advocates of the new psychology have been anxious to secure, and the book before us is the first contribution to the subject of experimental psychology. It is entitled Thinking, Feeling, Doing, and is by E. W. Scripture, Ph., D., director of the Psychological Laboratory in Yale University. The book is the record of the work done in the laboratory by Professor Scripture and his assistants and is replete with novel and startling experiments. Every thing is new and the originality of the experiments and the surprising results will make every reader a close student of the book. It is the book of the times in psychology and it will at once attract all students and teachers. It deserves most extensive circulation and most careful study. We commend it to the readers of Education. Meadville, Pa. : Flood & Vincent.

Defoe's Journal of the Plague Year, has been edited with notes and an introduction by George Rice Carpenter, and is volume one in Longmans' English Classics. This famous history or novel is one of the classics of the English tongue and its arrangement for use in schools is to be commended. Professor Carpenter's notes are exceedingly few and brief but are sufficient for school purposes ; the introduction is a careful bit of writing and adds much to the value of the book. New York : Longmans, Green & Co.

Macmillan & Company, New York, publish ELEMENTARY PHYSICAL GEOGRAPHY, a handsome volume of nearly five hundred pages, by Ralph S. Farr, assistant professor of geology at Cornell University. Price, $1.40.

Jaded novel readers may find in the stories of mediaeval France romances that thrill the blood and fire the spirit, but Columbia offers to the young stories and romances that are far more exciting and far more elevating than any the chroniclers of older nations can furnish. It was a happy inspiration that came to Will H. Glasscock and led him to write STORIES OF COLUMBIA, for the tales he relates have the merit of being true and as interesting as they are authentic. Mr. Glasscock has a fascinating style and he has given to the boys and girls of Columbia some stories that if read and studied will make them better citizens, better men and women of our glorious country. It will make an admirable supplementary reading book for school use. New York: D. Appleton & Co.

PRACTICAL LESSONS IN ENGLISH, by Huber Gray Buehler, is a little work of one hundred and fifty pages but crowded full of valuable information and practical exercises. It is quite unlike any other book of its kind and it offers to the student much that has hitherto been passed over by other writers. It aims to point out common errors, and tries to lead pupils to convert knowledge of these errors into correct habits of expression. Following the suggestion of the Committee of Ten, the author gives no sentences for correction. The book is arranged to be used with Hill's "Foundations of Rhetoric," but it may be used entirely independent of that work. The book is one of the most sensible of its kind and all teachers of English will welcome its appearance. New York; Harper & Brothers.

PERIODICALS.

The periodicals of the month exhibit the usual varied and interesting features of the holiday season. *Harper's Magazine* begins a new novel, "Briseis," by William Black. In the same number is an interesting sketch entitled, "On Snowshoes to the Barren Grounds," by Casper W. Whitney. There are over eighty illustrations in the December Harper's. — The *Weekly* and the *Bazar* are full of timely topics. — *McClure's Magazine* opens with a beautiful frontispiece representing the Madonna and Child, accompanying an article by Will H. Low on "The Madonna and Child in Art," with reproductions of thirty-one celebrated paintings. — *The Atlantic Monthly* is replete with good things such as "The Song of a Shepherd-Boy at Bethlehem." by Josephine Preston Peabody; "A New England Woodpile," by Rowland E. Robinson, and "The Starving Time in Old Virginia," by John Fiske. — The leading article in *The Forum* for December is "Conditions for American Commercial and Financial Supremacy," by M. Paul Leroy-Beaulieu, a distinguished French economist. This writer points out that the geographical position of the United States is such that it can aspire to take from England in the course of the next century her commercial and financial supremacy, but that in order to do this the dollar must be given the qualities of the pound sterling, i. e., *there must be no sort of doubt that it is a gold dollar.* Students of finance will find this a very suggestive article. — "English Mediæval Life" is pleasantly described by Alvan F. Sanborn in *Lippincott's Magazine* for December. — *Littell's Living Age* announces a reduction in price from eight to six dollars a year. — The Christmas number of the *Kindergarten Magazine* has some very interesting hitherto unpublished "Letters of Elizabeth Peabody." — A suggestive article on "Christmas Entertainments," and another on "Christmas Gifts" are found in the *Jenness Miller Monthly.* — The publishers of *The Youth's Companion* are sending to each subscriber a handsome four-page calendar lithographed in nine colors. — The "*Appleton's*" *Popular Science Monthly*, as it is hereafter to be called, gives an interesting account of "The Anatomy of Speed in Skating," by Dr. R. Tait McKenzie. — To read Professor A. H. Sayce's description, in *The Sunday School Times* of November 23, of the disinterment of one of the largest and stateliest of the temples which still exists in the valley of the Nile, is almost like reading a chapter from the Arabian Nights. — *The Ladies Home Journal* presents from the pen of Mary E. Wilkins six "Neighborhood Types," typical characters of a New England village, with illustrations. The work is engaging and original.